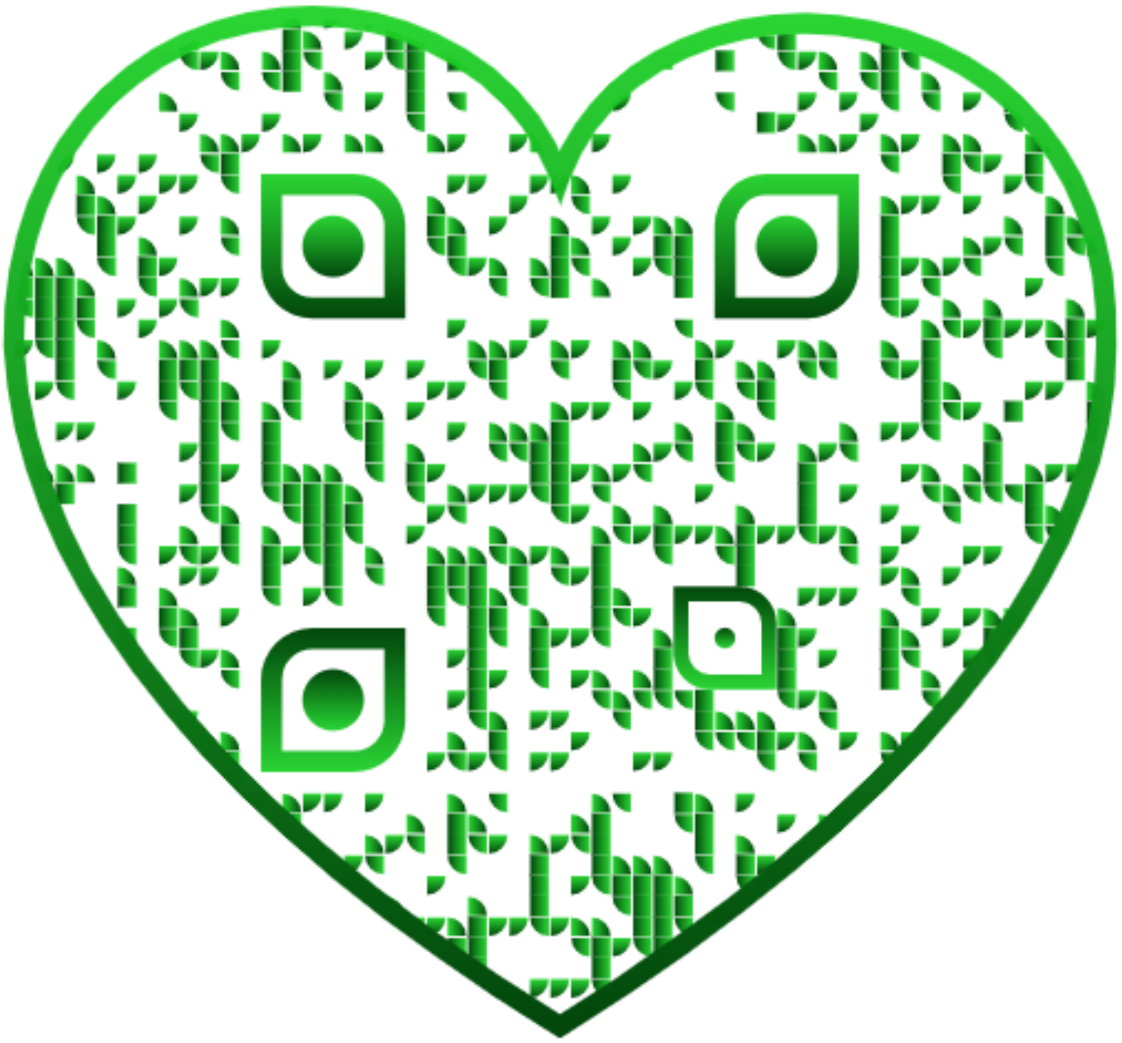
CAROLYN MCMAKIN
FOREWORD BY
JAMES L. OSCHMAN, PHD

THE RESONANCE EFFECT

How Frequency Specific Microcurrent Is Changing Medicine



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Foreword

This is a very exciting, entertaining, and often humorous account of the life work of a brilliant woman on a mission. Carolyn McMakin has taken Frequency Specific Microcurrent (FSM) therapy to the cutting edge of modern medicine. This is a new and precise kind of medicine: precise because it pinpoints the cause or causes of an ailment, no matter how complex, and treats it without side effects. Western medicine needs more methods like this.

How does it work? Resonance is the key, captivatingly described in the first chapter . Recall the last time a musical performance really resonated with you. Just as great music can resonate deeply into your soul, so can oscillating electrical fields resonate deeply into your physiology, biochemistry, and health. When this happens, there is nothing else like it. And, as with music, it is not the strength of the signal that counts—it is its frequency.

In the process of evolving this work, Carol has brought relief to countless patients who were previously unable to get help with their chronic pain and loss of function from injury, disease, or surgery. Many grateful patients have had their lives completely restored in the process. Dr. McMakin has even been able to reverse dismal and sometimes fatal diagnoses by giving the patients' immune systems a massive boost, so the body can regain its self-regulating and self-healing powers. Often her treatments have led to a chronic patient's complete recovery from a "hopeless" condition.

Some of the most remarkable of Carol's treatments look deceptively quick and simple. But it was not always this way. Getting virtually miraculous results repeatedly often required great patience, hard work, compassion, sensitivity, and a keen intuition. The amazing and fascinating process by which Carol evolved this therapy is detailed here for the first time. Read about how she tested different frequencies until she found the perfect combination that ended her patient's years of pain and suffering. In the process Carol developed completely new and profound insights into the relationships between pain, injury, frequency, and the anatomy of movement. Her frequency tools have enabled her to unravel some complex and severe conditions for the first time in medical history. This is a thrilling and spectacular legacy.

I have watched the evolution of Carol's work for about two decades. Someone alerted me to her first FSM paper, published in August 1998. I was very excited by this breakthrough in energy medicine, and could see where it might lead. Since then, I have seen Carol develop more and more cutting-edge

methods that can treat countless issues previously labeled as “intractable” or as “I am sorry, you will have to take pain medications for the rest of your life.” And the real test: she has been able to teach many others to do this wonderful work. But perhaps the most important observation: Carol has been inspired to look at every way of bringing this work to the people who need it. For example, she is totally dedicated and committed to her students and to their patients. She wants to take special care of everyone, and is actually doing it.

This valuable and readable book will extend the reach of Carolyn McMakin’s remarkable contributions to modern medicine far and wide, and I applaud her for taking the time from her busy clinical and research schedule to write it all down for us. I hope you find this story, and Carol’s work, as enticing, exciting, and precious as I have.

—James L. Oschman, PhD
Author of *Energy Medicine: The Scientific Basis*

1.

Resurrecting Resonance

The harmonies and ecstasy of music blend with the human soul by way of hearing and vibration to create a shared resonant experience in listeners. Dancers in all cultures surrender to the rhythm of the drums, and the resonance drives their bodies to move as one. We may not know how it works or what to call it, but everyone knows the experience. When the orchestra plays, the audience has a shared harmonic experience that transcends their separateness, and they are linked together in a subtle unison that satisfies the soul. When a rock band plays at a concert, the audience hears the music and feels the bass percussion deep inside, as if in their bones. They are bonded together in a shared experience of vibration, sensation, and movement that can connect ten thousand into one resonant, cohesive body.

We know resonance when we experience it. When we resonate with an experience, we feel connected to the source, as if blockages have been removed and we are more ourselves. It feels this way whether it comes from the perfect words in a speech, or when we think of someone just before they call, or when we align with nature as we sit in the woods.

When you tune your radio to 101.3, the receiver is resonating with the signal being sent out by the antenna that is transmitting at 101.3. Only that station is received at that site on the dial. The receiver and the transmitter are resonating at the same frequency. Without resonance, radio transmission and all of our modern digital communication systems would not exist. When you open your car door with a key, it changes the lock from closed to open mechanically. When you use the key fob, it opens the door with a signal that connects with only your car door lock, not any of the others in the parking lot. It can resonate with just the front door or the trunk or the passenger doors. The locks are tuned to respond to the signal from that key fob and no other. That's resonance.

We all experience resonance as a feeling, but in fact resonance follows the laws of physics and the observations and principles of science. The radio transmitter and receiver resonate with each other across the miles to send information from the Mars rover to earth and from FM 101.3 to my car radio. Physicists describe these principles with mathematics, and engineers use those principles to design the transmitters, receivers, and gadgets that use

resonance. Some engineer designed the key fob "beeper" on your key chain so it is tuned precisely to the frequency that opens your car door. When you press the button, only your car in the parking lot flashes its lights and locks the doors. That's not woo-woo or magic; it's physics. It's resonance.

When there are two tuned violins in the same room and you bow the G string on one of them, the G string on the other violin will begin to vibrate on the other side of the room. The vibrations from the first string travel through the air and resonate with only the other G string. No other string will vibrate except the one that is tuned to match G. That's resonance.

If there is a weight or a finger on the G string, it won't vibrate in response to the other G string. The obstruction stops the vibration that should happen when the matching G string is bowed. That's interference. When you remove the interference and allow the string to respond to its essential frequency, it will hum in response to the G string from across the room. Resonance happens when there is no interference between the source and the receiver. If there is a building in between your key fob and your car, the door won't open because of the interference. When you come into line of sight with your car, the interference is removed and the door lock will open. Resonance happens when the interference is removed.

The laws of physics work together to create resonance, and to some extent resonance creates our experience of reality. You need the physics, math, and electrical circuitry to create deliberate resonance, but you don't see the physics, math, or circuitry. The G string just hums. The music just comes through the radio at 101.3. You just unlock your car door. The same principles operate when you resonate with your surroundings. We don't see the physics, but there is biological circuitry in our brain, nervous system, and in every cell that resonates with our visible and invisible surroundings, and we respond to it.

It seems possible that the same principles of resonance operate in our lives to create inspiration and intuition, or what seems like luck. There is no obvious law of physics operating when you just choose to turn right at the perfect time to meet an old friend, or decide to go into a store you don't often visit and find the perfect sweater on sale. You don't know why. It just felt right. You got lucky. You make a decision that improves your life because it feels right. There is no mathematical equation for it, but I am convinced that it is all resonance.

There are some choices that just feel right. They resonate with your deepest desire, with your inner self, and they feel easy somehow. Everything relaxes when we say yes to that choice. Somewhere inside of us, interference disappears, resistance melts, the path becomes clear, and the right choice flows easily. We can resist this choice with sensible self-talk and anxiety, but

in the end we often make decisions or choices based only on the fact that it feels right. We reverse-engineer the decision after the fact, and make it sound logical, but the truth is simpler. It felt right. That's resonance.

It should be obvious that I didn't discover the resonance effect. Resonance has been experienced, discussed, and used deliberately or accidentally by almost everyone at some point for thousands of years. So I never expected to find resonance in a list of numbers, a list of frequencies written on pieces of binder paper that would change everything I thought I knew about the body and how it works. It would change my life and thousands of lives forever.

Let me explain about the list. The story starts in 1986.

At the age of thirty-nine I was about to move from San Diego to Portland with my husband, our three-year-old son, and our seven-year-old daughter. My husband was going to go to Western States Chiropractic College as a midlife career change and I was going to be the "doctor's wife" to run the office once he graduated. The house in San Diego was rented out, the moving van was on schedule, and we were almost packed up.

My friend Diane sat across from me at lunch on Friday two weeks before our departure, set her wine glass firmly down on the table, looked me in the eye, and said, "This is stupid."

I had thought "intrepid," perhaps, or "daring," or "midlife crisis," but "stupid" never occurred to me. "Why stupid?"

She replied, "He just wants a new job option. You've wanted to be a doctor for as long as I've known you. You should be going to Chiropractic College too."

"I have a three-year-old and a seven-year-old, and somebody needs to work while he gets through one year of premed and four years of professional school. How could I possibly go to school too?"

"I don't know how you would do it. I just know it's stupid if you don't." Our lunch ended on that thoughtful note with a warm hug, and I went home to continue packing, doing laundry, and picking up toys.

Sunday I went to church with the kids while Ben worked a weekend shift at the San Diego Harbor Patrol. The minister was giving a sermon on vocations. From the pulpit, she said, "What is your gift? What is your calling? Where is your talent? What makes your heart sing? What has God or the Universe called you to do with your life? What stops you from pursuing that dream? What stops you from being what you are called to be? For most of us, *how* is what stops us."

The sermon resonated with my internal story. Diane was right. I had wanted to be a doctor since I was seven, but I always had a reason why it couldn't be done. In college, I was terrified of the organic chemistry required for premed

students. At home, the family business had trouble, and my parents packed up and moved from Santa Clara to Idaho at the beginning of my senior year. I had no way to go to medical school back then. For lack of finances and confidence, I graduated with a degree in psychology from the University of Santa Clara in 1968 and ended up working as a pharmaceutical sales rep, calling on doctors and hospitals, for sixteen years. I educated the doctors about my products, but my doctors taught me about medicine in our conversations and in the hours I spent watching them practice. This was before "managed" care, and before they were "providers." These physicians practiced medicine as a personal and devoted profession. They let me be close to medicine, but my heart still felt the calling to be a physician.

I tried going back to school throughout my twenties to update my science credits and to get through the dreaded organic chemistry so I could apply to med school, but between full-time work and then marriage, it just wasn't possible. There was always a reason. I closed the door and turned out the light on that dream ten years earlier when I turned twenty-eight. Firmly shut. Lights out. How could I possibly go back to school now, with two young children and a husband in school?

Then the minister interrupted my reminiscence and said, "If there is a *what* in your life that you are called to do, and you are clear about that calling—if it resonates with your soul and you know that this is what you are supposed to do with your life—I challenge you to do the *what,* and you let God worry about *how.* Your soul knows where it is supposed to go and what it is supposed to do. Of course, you have to be prudent and willing to work, but *how* is not your job."

When the minister said "*How* is not your job," all of the obstacles and excuses somehow evaporated, and the door I had closed on my dream flew open. It was as if a bright light went on inside me.

How was not my job! I could do this. What I need will always be there when I need it.

I went home and told my husband, "Guess what? I am going to Chiropractic College too."

He asked, "How?"

"I'm not sure. *How* is not my job." After that, everything felt easy.

The first *how* arrived in the unexpected form of my father, who offered to let me work as an outside sales rep for his Idaho potato packing company making calls on Portland produce distributors. My husband's inheritance helped us avoid student loans, and my small salary filled in the gaps. We started community college for chemistry, physics, and the other required premed courses in September 1986. Two years of premed followed for me. I

took the year of dreaded organic chemistry in ten summer weeks and enjoyed it. A 4.0 grade average, added to my high medical-school admissions test scores, gave me the chance to be accepted to medical school. There were three places left for the January 1987 Oregon Health Sciences University medical school class, and six of us who qualified.

On the day of my interviews I was a nervous wreck. Interviews were always easy for me, but not these. Dry mouth, damp palms, and cotton for brains. It was definitely not at all resonant. The day felt like wet cement, not waxed rails. The interviewers were kind and thorough, but each of them asked me in various ways about being forty-two years old and having two small children as I headed into medical school and residency. What was I thinking? And I had no answer. "What I need will be there when I need it" just didn't seem to fit the mood of the day, and I never said it out loud.

Three other applicants filled the January class, and the admissions officer asked me to go back for more premed courses at Portland State and reapply to Oregon Health Sciences University med school the next year. It was obvious to me, if not to him, that the next year I would be a forty-three-year-old woman with two small children. This was not going to get better! It just wasn't a good fit. Resonance feels soft, not necessarily easy, but at least welcoming, flowing, and smooth, and medical school felt sticky, bumpy, and incongruous.

Chiropractors in Oregon have a very broad scope of practice, unlike some states, where they can only adjust the spine. In Oregon, the law describes them as chiropractic physicians and they are responsible for diagnosing everything that walks in the door, whether they can treat it or not. They can order blood work, X-rays and MRIs, deliver babies, do minor surgery, provide women's health care, do PAP smears and pelvic exams, and do male prostate exams. In Oregon, chiropractors are physicians in every sense of the word except prescribing medications. In Oregon I could be a family doctor without being an MD. I shook off the disappointment, and the path to Western States Chiropractic College lit up and felt smooth and welcoming. I was accepted and started school the next fall.

Chiropractic college is more demanding than most people realize. The competition is less fierce but the class schedule includes the same topics and exceeds the medical school hours in everything except pharmacology. Four years of radiology, one year of dissection anatomy, ten weeks of spinal anatomy, one year of neurology and physiology, three thousand hours of palpation, and much more. There were thirty to thirty-five classroom hours a week for twelve quarters over four years, plus the homework, plus the children and the household. I found out that it is possible to mop the kitchen floor at 1 a.m. in five minutes after four hours of studying. My husband had

less premed to complete, and he was one year ahead of me in chiropractic college. We were the oldest students in the school and the only married couple. Everyone knew us, and we hosted the biggest end-of-year parties in the school's history at our little house six blocks from the school. All in all we had a very busy household, but we managed to ski and picnic and have summers and the same school holidays as our children, and it was an exciting delightful time, full of hard work and good fun.

Then, in December 1990, I dropped out of school at the end of the seventh quarter to take care of my mom when she was diagnosed with pancreatic cancer. She sent me her blood work results in mid-December, and I took the paper in to the laboratory diagnosis instructor the day before my final exam in his class.

I asked him, "Is there any way this is *not* pancreatic cancer with liver metastasis?"

He looked at the lab values and said, "No. This is pancreatic cancer with liver mets. Whose is it?"

"It's my mother's."

He was quiet for a minute and then said, "You could take your final exam next term instead of tomorrow."

Mom and I went to Freeport in the Bahamas for immune augmentative cancer therapy in January 1991. The treatment appeared successful, she was doing well, and the cancer was quiet. We had lovely long chats, and I snorkeled and studied the lab-diagnosis course while she was resting or being treated at the clinic. I flew home on Friday, February 14, and she fell and broke her hip on Sunday, February 16. I flew back to Freeport on Monday, and on Tuesday morning the orthopedist told us the hip was too complicated to be repaired in Freeport. Mom knew what was coming. She wanted to go back home to Idaho to have the surgery done at a Sun Valley orthopedic hospital even though it meant stopping the cancer therapy. We took off into the Tuesday Caribbean sunset, and five hours later landed in Ketchum, Idaho, in a Lear jet air ambulance.

Mom rested on Wednesday, and the hip was repaired on Thursday. Four hours after the surgery she had a stroke that took out her left side. Ten days later we flew from Idaho to Portland in a much smaller air ambulance with propellers so I could go home to my family and she could move to a skilled nursing facility there. She continued to have small strokes about every five days, and in the end the only words she could say were, "I love you." She died on March 19, 1991.

Professional school is hard on many marriages, but my long absences for caregiving, mom's death, and the stresses of school were too much even for

us. Ben and I separated in July 1991 and decided we should get divorced in August, after school was out and his board exams were finished.

I haven't forgotten about resonance or the list of numbers. It's coming up.

In July, after we separated, I was teaching gynecology and prostate exams as a student instructor at the chiropractic college and the medical school. The training program at both schools had to include not just the textbook portion of men's and women's health but also the physical examination skills. How do you use your hands to find out what the ovaries and uterus feel like? What does a normal ovary feel like? You have to be able to feel them to see if they are normal size. How do you position yourself and a patient to do a proper exam to find out if the prostate is normal and rule out prostate cancer? We taught students how to do a comfortable effective prostate massage to relieve the symptoms of prostate congestion without surgery or drugs. Western States Chiropractic College and Oregon Health Sciences University both used a small group of women students as instructors for these exams who were also models for the women's exams. I had been one of these model-instructors for two years at that point.

That summer, at the same time I was teaching examination skills in the student health center, I was also being treated for a two-year-old ski injury to my right shoulder. George Douglas, a doctor of chiropractic, was the clinic director supervising my shoulder rehab in the student health center. As we finished up in the treatment room one day, I mentioned that he didn't look his usual cheery self, and he replied that he and his girlfriend had just split up, and he had moved into his own apartment that weekend. I told him about my divorce from Ben, and his surprised reaction mirrored what I heard from everyone else at school. "You guys?" We commiserated about the difficulties that came with splitting up and then went about our clinic teaching duties, closer somehow for the shared experience.

I couldn't move my shoulder through its full range after an accidental full-body summersault that happened two years before, when my skis stopped but I didn't, and I landed up to my neck in a snowdrift. My student clinician worked on the muscles and then mobilized the joint three days a week for a month. It was better, but not perfect. If I lifted my arm in front of me with my elbow bent, I couldn't move it out to the side. It stopped halfway to normal, at forty-five degrees. George watched our progress for a month and then asked me to come to his office at the end of the day. He took out an old-looking single-channel microcurrent machine with two handheld probes attached to it, and put wet cotton swabs into the ends of the probes. Looking at a detailed acupuncture chart, he put one wet cotton probe tip on a point on my hand and the other swab tip someplace on my face. He pressed a button on one of the probes, and the machine warbled a tone and sent out a tiny current for six

seconds. “Move your shoulder,” he instructed. It moved to forty-five degrees; there was no change.

He moved one probe to a point on the inside of my wrist and then put the other probe on my chest, near my armpit. He pressed the button again, the machine warbled for six seconds, and he said, “Try moving your shoulder.” The shoulder moved to ninety degrees with no pain or restriction. I was amazed, but he wasn’t finished. He stimulated four other pairs of acupuncture points and had me move my arm after each six-second warble. The range of motion went back to forty-five degrees each time. He went back to the points on the wrist and the chest wall and pressed the button twice, so it warbled for twelve seconds. The range of motion went to ninety degrees. Movement was normal and pain-free, and it stayed that way. George had my attention.

Let me explain a little about how George did what he did to my shoulder. George did a type of energy work that he learned from an Australian osteopath named Harry Van Gelder. Harry came from England to the United States in 1946 and bought an osteopathic practice that came with a machine that was made in 1922. That machine came with a list of frequencies. Harry used osteopathic spinal manipulation, nutrition, homeopathy, the frequencies, and stimulation of acupuncture points to treat patients, and soon became famous across Canada and the western United States for his results with difficult patients. George learned about him and wanted to learn his techniques so he could use them when he became a chiropractor. He spent three months in the summer of 1981 working with Harry as a student. He learned homeopathy, nutrition, and how to stimulate acupuncture points. Later he figured out that he could stimulate acupuncture points with microcurrent using cotton-tipped probes, and that’s how he fixed my shoulder.

George brought Harry’s list of frequencies home written on pieces of binder paper and put them in a drawer in 1981. But where did the list come from? In the early 1900s there were thousands of medical physicians and osteopaths using electromagnetic therapies to treat patients with exotic-looking machines that plugged into wall current and delivered frequencies thought to be therapeutic. There were journals like *Electromedical Digest* and groups like the Pathometric Society and the Electromedical Society to share discoveries and publish research. It was a huge movement in the United States and England.

In 1910 the Flexner Report attempted to standardize medical care and education by choosing drugs and surgery as the “scientific” therapies of medicine and outlawing everything else. Physicians who used homeopathy, nutrition, herbs, and electromagnetic therapies would lose their license to practice, at that time granted by the American Medical Association. Sometime around 1935, the machines were put in back rooms, unused and covered up

with a sheet. In 1946 Harry bought the practice, resurrected the machine, found and started using the frequencies, and the rest is history.

After that day in the clinic when he fixed my shoulder, George started calling every night at 7 p.m. during the summer of 1991, and we talked for an hour about everything from medicine to art and philosophy. Soon he not only had my attention; he had my heart. He visited the house often, and eventually it was my daughter, Wendy, who asked him to move in with us once my divorce was final in the spring of 1992.

I graduated in 1993, and with my dad's help bought a small practice in 1994. George bought a two-channel microcurrent machine as a present for my new office because he liked it, and he wanted to buy me a present. Later, he found Harry's frequency list in a drawer and started to wonder if the frequencies might work if applied with the new two-channel microcurrent machine. Harry's machine had two channels, and the Precision Microcurrent machine had two channels. The idea formed quietly in his mind that perhaps the old frequencies might just work on a modern device.

I called George at his office one day when I was working on a patient with my thumbs to get rid of knots in her calf muscle. Her pain suddenly went from annoying to excruciating, and I couldn't figure out why. He had been my teacher in school, so out of habit, I called him to ask for help. The quiet idea in his mind materialized at this opportunity to try it out.

He said, "The Precision Micro is in room 2. Set the machine so the frequencies are 18 hertz on channel A and 62 hertz on channel B, and put the adhesive conducting pads on either side of her calf so the two channels cross in an X through the painful area."

"What are those frequencies for?"

"I'll tell you what they are once we see if they work."

Figure 1.1. The Precision Micro was a two-channel, fourteen-pound analog microcurrent machine created by Glen Smith in 1992. He never patented it because he didn't want to publish the intricate circuit design that made the frequencies so precise, and he didn't want anyone to be able to copy the special power-saving circuits. Glen said he wanted to make a machine that would help people.

I set up the machine as instructed, and fifteen minutes later, she was out of pain and I was back on the phone when she left the office.

"What did I just do?"

He said, "18 hertz stops bleeding. It's described on the list for 'stopping hemorrhage,' and 62 hertz is on the list as the frequency to target the artery as a tissue. I think you broke a blood vessel with your thumbs and started a little bleeding, and that increased her pain. Stop the bleeding with the frequencies, and the current and the pain goes down."

"What list?" I asked.

He then told me the intriguing story of Harry, the machine, and the list of frequencies.

In 1995 Portland State University asked me to do a continuing education lecture for doctors of chiropractic on the topic of myofascial pain and fibromyalgia. I read the eighty-five top papers on that subject in the medical school library, made sixty overhead projector transparencies, and thereby became the new local doctor of chiropractic expert on fibromyalgia and muscle pain. I saw patients three days a week in a small practice, and soon more and more of them came in with these two difficult "incurable" conditions. Pretty soon I needed help with the more challenging complicated

patients, and I asked George to work on them with me on my days "off." Eventually he moved into my office, and we worked together on Tuesdays and Thursdays for all of 1995.

It was one year of seeing very difficult, very ill pain patients using the microcurrent machine to deliver the frequencies from Harry's list. George had the list up on the counter in the treatment room and suggested the frequencies to use as we worked. I treated the patients on the treatment table with my hands for an hour each. And, much to my surprise, these chronically ill patients started to improve. At first, it was one hour per patient for half a day, two days a week, and by the end of the 1995, both days were full from 9 to 5. They spilled over into my regular practice and my schedule filled up.

George taught me how to think about how the frequencies went together and how to treat the system so it would be healthier. There was one set of frequencies on the list to neutralize conditions such as inflammation, concussion, toxicity, viruses, and scarring. There was another list of frequencies for tissues like the liver, small intestine, nerves, cartilage, spinal discs, fasciae, and muscles. There were frequencies for specific parts of the brain and a frequency for the spinal cord. The frequencies and the concepts were fairly straightforward. You consider what tissue has the problem that is causing the patient's symptoms. Then you ask what condition in that tissue is creating the problem. What tissue is it? What's wrong with it? What condition is causing the interference that prevents the tissue from being normal? Remove the interference, and the tissue should return to normal function. It is just like taking your finger off of the G string to remove the interference and restore its normal harmony. Remove the interference and resonance returns.

To remove inflammation, use 40 hertz on channel A. To remove inflammation from the small intestine, use 40 hertz on channel A and 22 hertz on channel B. When you remove inflammation from the small intestine, irritable bowel symptoms improve in ten to twenty minutes. The frequency would resonate with the condition in a process from physics called destructive interference and change it. Inflammation, pain, redness, and swelling would simply go away when you used 40 hertz on any target tissue. We became accustomed to seeing very quick results and learned to expect it when the frequencies were correct. We thought destructive interference worked like noise-canceling headphones. Turn on the headphones and the surrounding noise simply disappears. The frequency of 40 hertz from the machine neutralized the "frequency" of inflammation in the target tissue in minutes. It ended up being much more complicated than that, but this is the idea we started with because that is how it happened.

But it wasn't just the frequencies that made the approach different. Harry and George thought about pathologies differently than anyone else. They saw

the entire system as connected. They understood that specific pathologies or conditions could make one part of the system sluggish, and that could create problems elsewhere downstream and make people sick in various ways. Harry saw the medulla, or brainstem, as crucial to normal immune, endocrine, and nervous system function. To remove concussion from a part of the brain stem called the medulla, you used 94 hertz to remove the concussion and 94 hertz to target the medulla. It was just a coincidence that the frequency for the condition and for the tissue were the same in this case. When you used the nine pairs of frequencies in the Concussion Protocol to treat the medulla, patient symptoms and function changed dramatically, although I couldn't explain why. Now research has shown that the vagus nerve starts in the medulla, and the vagus controls immune system function, digestion, and emotional states. Harry was just ahead of his time.[1]

In medicine, how a patient became ill is not usually an issue. Medication stops symptoms; it doesn't address the cause of the condition. I learned medicine from the doctors I called on to market various drugs when I was a pharmaceutical representative and understood medicine from that perspective. With the frequencies, you had to address the condition that made the tissue dysfunctional in the first place. Harry and George saw the whole system as intertwined and connected. The concept that some sort of emotional or physical trauma could concuss the medulla was completely foreign. And the concept that this concussion could influence the nervous system as well as the immune system, the endocrine organs and the digestive system, was almost incomprehensible. But George kept suggesting these frequencies and this way of thinking about how things worked; I applied them as directed for hours at a time, and patients kept getting better. This was inconvenient, because I really didn't believe it should work. But it did.

All that year I was still doing muscle work with my hands on my regular chiropractic patients three days a week. There are knots in muscles called trigger points because they trigger pain in distant areas of the body. Muscle knots in the neck can create pain in the arm, chest, or hand and unless you are familiar with the trigger-point diagram from the textbook called *The Trigger Point Manual,* it is not obvious that the source of the arm pain is in the neck muscles.[2]

Trigger points in certain muscles, like the sternocleidomastoid (SCM) that runs from behind your ear on the skull down to your collarbone, can create symptoms like dizziness or vertigo when the muscle is used to bend the neck forward and to turn the head.

I had been working on just such a patient twice a week for six weeks. His auto accident had been months before. This longshoreman had trigger points in his SCM that made him dizzy when he bent his neck forward and turned his

head to the left. My trusty thumbs had been digging in to his thick, strong neck muscles twice a week for six weeks doing manual trigger point therapy, and we were getting nowhere fast. There was minimal improvement with each session, and the pain was better, but the dizziness was getting worse when he turned his head. The dizziness was bothersome when he lifted his head and turned his neck to roll over from his back to his side in bed. But it went from bothersome to dangerous when he was at work, and he was about to lose his job because of it. At work he was a crane operator, and when he leaned forward and turned his head to the left, he had a fully loaded train car on the end of the steel cable, and getting dizzy was not a good thing. His medical doctor was sending him to a neurologist the next day, and we needed to make some serious progress if we were going to help him keep the job he loved.

When we worked together, George had the list of frequencies on the counter and made suggestions as I treated patients with my hands. The full list was in his office down the hall. In my treatment rooms, the frequencies for the muscles were written on a business card stored in the top of the fourteen-pound, light blue, two-channel Precision Microcurrent machine.

As I sat at the head of the treatment table about to put my thumbs to work, a quiet prayer formed in my mind. “Help” is the shortest heartfelt prayer, and people say that it works sometimes. As I waited for the answer and tried to figure out what to do with the neck on the table in front of me, I could see the sleek new automated digital microcurrent machine for doing facial treatments across the hall in room 3. There were graphite current-conducting gloves sitting on top of the machine. Cosmetologists wore these gloves on their hands to do facial treatments in upscale spas, and that image floated into the stillness of my mind.

The frequencies written on the business card were under the clunky microcurrent machine on the equipment cart next to me. The dizzy desperate longshoreman was on the table looking up at me hoping that I would think of something to help him keep his job.

And then everything went quiet. There was a moment of inspiration and synthesis. The room became completely still in the midst of the normal bustle of a busy clinic. There were frequencies on the card. In my mind, I could suddenly see my hands in the graphite conducting gloves and the current flowing from one glove to the other through his neck muscles. There wasn’t any precedent or training for this idea. It just felt right. Was it a resonant moment or the answer to the silent prayer? Or are they the same thing? The irresistible image illuminated my mind, and I had to try it.

I asked him if I could try something new. He said, “Yes, anything.” I went across the hall, picked up the graphite gloves and attached them to the leads from the blue box, George’s Precision Microcurrent machine. I put the gloves

on my hands, looked at the frequencies written on the business card, took a deep breath, put my hands on his neck, and felt the hard painful muscles through the graphite gloves. The thought came to my mind that if neck muscles were hard like rocks and you removed "mineral deposits" from them, they should get softer. So I chose the frequencies from the card for "removing mineral deposits" from muscle tissue. I had never used these frequencies before, but the choice made sense. It felt right. That was the theory.

Figure 1.2. The facial machine that started it all. The sleek BioTherapeutics E-2000 was purchased so we could do facial antiaging treatments during the clinic quiet hours. The graphite gloves were worn by estheticians to apply current to the face and reduce lines and wrinkles. Instead, the graphite gloves allowed us to feel the muscles soften as the current and frequencies reduced pain.

What happened next was something I had never experienced and beyond anything I ever imagined possible. His neck muscles melted. They just melted. I could feel heat on my hands through the gloves as they got warm and then hot. The neck muscles started to soften in seconds and within ten minutes they were soft and didn't hurt any more. The trigger points simply disappeared in minutes, after they had resisted the efforts of my thumbs for six weeks. He lifted his head at the end of the treatment with strong muscles that were soft and pain-free, and the dizziness was gone.

The frequencies resonated with whatever was making his muscles hard and removed it in minutes. The muscle melting was a response to the frequencies, not my thumbs. We already knew my thumbs didn't change his neck muscles.

The frequencies must have removed the interference caused by the "mineral deposits" and changed the muscle immediately and permanently back to normal. The interference was removed and the tissue became normal. It was like unlocking the car door lock with the key fob. It opened and stayed open. He needed one more treatment, and then he was recovered. It was done. I wasn't sure I believed it, and I waited for the call announcing his relapse, but it never came. It really did work that fast.

That first resonance response was a complete surprise. It changed everything I thought I knew about biology and how the body worked. Muscles don't *do* that. Manual therapy doesn't do that. The principles of physics and destructive interference to remove pathologies and return tissues to normal were new to me. I was trained in science and needed evidence. Science is not a body of established knowledge; it is a method of observation and study. Scientists observe effects, make sure the observations are accurate and reproducible, and then formulate a model that explains what they observed. That had to be the next step.

I didn't completely understand what happened, but I definitely needed to find out if we could do it again. I had to find out if this would help a clinic full of patients with pain and knotted muscles. Was the resonance effect real when it changed muscles that quickly and completely? Was it reproducible? I didn't believe that resonance was magic; it's physics. It only seems like magic when it helps a patient recover so quickly.

The moment when the room stood still and everything got quiet was also one of those resonant moments—the moment when the path stands out and you know what you are supposed to do. When the door opens and you say yes. That's resonance.

2.

Miracles and Mistakes

After that first longshoreman, I went into every treatment room with the blue box and the graphite gloves on the cart and used the frequencies written on the business card, wondering if it would happen again. There was no way to know if it was a fluke or something real. This was clinical science in its essence. Science asks, "What did you observe?" Given the same set of circumstances, will you observe the same thing again? Given the same set of circumstances, can you eventually predict that the same thing will happen? And you do that thousands of times until you're sure that there is no other explanation for what you observed. That's science.

Every patient was treated with the frequencies and the graphite gloves. And most of the time muscles melted, the gloves got warm and then hot, the pain went away, and patients got better. Some improved a little, some improved completely, some in a few weeks, and some in a few months. It took some time to figure out what interference created which types of pain and what frequencies should be used to reverse it and normalize the tissue.

Every chronic pain patient knows six people with similar problems who are watching to see how they do. Patients who recovered referred their friends, and the practice started to grow from thirty patients a week to fifty within a few months. Pretty soon I was leaving the house earlier and working five days a week instead of three and didn't have the luxury of working with George on Tuesdays and Thursdays. The clinic scheduled three patients an hour to support the overhead, and we had two of the four treatment rooms full most of the day. I was usually home by 6 p.m. to fix dinner and hang out with the kids.

Most people recovered, but sometimes it wasn't just muscle knots; some patients needed to be sent out for surgery. Eventually I sent a patient to a shoulder surgeon for a rotator cuff repair. Two weeks after his surgery, we started treating him to make his shoulder more comfortable and speed up his recovery. The microcurrent, just the current by itself, increased energy production in cells by 500 percent in animal studies,[1] so we knew the current would increase healing. We used the frequencies from the list to repair the torn and broken tissue, reduce inflammation and bruising, and combined those frequencies with the frequencies on the list for every tissue in the shoulder. We treated him two days a week for six weeks after his surgery, and every day

his pain went down and his range of motion improved. His improvement was gratifying but not unusual. By May 1996 this was a normal process to us.

When he saw the surgeon six weeks after surgery, his condition was certainly not normal to the surgeon. The receptionist called me to the front desk on Thursday morning and said, "It's Dr. Puziss."

"Hi, Paul. What's up?"

He didn't even say hello. He said, "What did you do to him?" Dr. Puziss is normally a very kind, unflappable orthopedic surgeon, so when he was almost sputtering, I was a little worried.

"Him who? Do what? What happened?"

"Mark—the patient I operated on six weeks ago."

I asked, "Mark? He was here yesterday. What's wrong with him?"

"Nothing's wrong with him. His surgery was six weeks ago. He came in this morning for his six-week checkup, and he's where I would expect him to be at three months. What did you do? He's in the treatment room with me right now, and his pain is so low and his range of motion is so good that I have to know what you did."

"You called me on your cell phone with the patient in the treatment room?"

"Yeah. He's telling me something about a machine and black gloves that get warm and make him sleepy, and then his pain goes down and his arm moves better. What are you doing over there?"

I explained about the frequencies from the list, about the muscles melting, about the graphite conducting gloves getting warm, and about the current increasing energy by 500 percent. I told him it seemed to be doing things that even I wasn't sure I believed.

Dr. Puziss said, "That's fascinating. I have a few patients I might want you to see. Thanks." And he hung up.

The next week I saw three new patients from Dr. Puziss. All of them had shoulder surgery and none of them were doing well. Pain and limited range of motion are poor outcomes after shoulder surgery or any orthopedic surgery, but sometimes it's just what happens because of scar tissue and inflammation. Surgeons hate surgical failures, but not all surgeons are open-minded enough to try something new to help improve recovery. Dr. Puziss was particularly diligent in following up, and he wanted his patients to recover even if it meant using something new. He kept sending two or three new patients a week. Each new patient appointment meant follow-up appointments for that patient twice a week for four to six weeks. Pretty soon I was leaving the house early and working through lunch five days a week.

I was learning on the job; there was no recipe. There was a list with names of tissues, like tendon, connective tissue, joint capsule, cartilage, fascia, and

nerve. And there was an anatomy book open on the counter to remind me where everything was (shoulders are incredibly complicated). And there was a list of frequencies for conditions like inflammation, bruising, and scarring. But there were no guidelines to tell me what conditions in which tissues would create which symptoms or which frequencies in what order would remove the pathologies and fix those symptoms. I had to figure it out. Was the range limited by inflammation and pain someplace? Or was there scar tissue that glued one tissue to another to create the pain and limit the range of motion mechanically? Was it really the muscle, or was it really the nerve and it just acted as if it were the muscle? It was all trial and error, and it took time. Patients began calling at 5 p.m. to find out how late I was running. Dinner at home was hardly ever on time. George would go home early and fix dinner for my teenagers, and we would all hope that I could make it home by 7:30 in time to join them.

Figuring out what frequencies to use for which symptoms on any given patient was challenging. At times it seemed as if there was a quiet voice in my head that whispered, "I wonder if it's inflammation in the bursa?" Or it would say, "That's so tender, I wonder if the nerve is scarred down to the fascia?" And sometimes an image of the tissues under my fingers would appear in my head, as if my fingers could see, and there would be clarity about what would fix the pain. There is a frequency that eliminates scarring, and there are frequencies for the two tissues that are glued together. The frequency choices would become obvious, the tissues would melt, and the symptoms would improve. Not always, but it happened often enough that I learned to listen to the quiet voice and look for the mental image. I learned that if a frequency was correct, it changed the tissue in seconds. If the frequency was not correct, if it didn't match the tissue and condition, I could press harder or wait longer and it still wouldn't work.

I was learning about the resonance effect on twelve to fifteen patients a day. The correct frequencies would resonate with the tissues, the graphite gloves would get warm, the tissues would soften, and the pain would disappear. It seemed like magic, but I was convinced it was more physics than voodoo. The frequency had to match the condition and the tissue like the key fob has to match your car door lock.

In order to guess right and use the correct frequencies, I had to learn to be still, listen to the quiet voice, and pay attention to the mental image. The resonance effect was not just about frequencies softening tissue and taking away pain; the resonance effect was about being still inside, saying "yes" to the quiet voice, and following the images that helped me learn. I knew anatomy, but I didn't know it intimately or from this perspective. The frequency response was so precise that it was teaching me anatomy and

pathology all over again. What tissue is under my fingers? What exactly is wrong with it?

I can't pretend that this was easy or painless. The worry about not being at home enough, the chaos of a newly busy office, the impatience of being new in practice, and the ever increasing difficulty of the patients who came for help all made it tempting to rush, to get into my head or my ego, or to do what I did the last five times because I was too tired to think. All this made being still and feeling for the resonance an ongoing challenge.

But resonance is relentless. If I didn't listen, it didn't work. If it didn't work, patients didn't get better. If patients didn't get better, I wasn't doing what I came here to do.

The world and our habits make it difficult to be still inside and listen for the quiet vision that whispers in your mind. There is no formal place where you can go to learn to listen to resonance. I didn't know it was possible to turn off the busy emotional and mental chatter in your mind until I saw it in action every Friday night at the Healing Group. Harry Van Gelder, the osteopath who gave George the list of frequencies, started a group in 1957 that meditated every Friday night over healing requests that came from friends and patients around the world. I joined them in 1991 when George and I became friends. They belonged to the Theosophical Society, a philosophical group, not a religion, that brought Eastern thought to the West in the 1800s. Fourteen people, Theosophists in their sixties and seventies, sat around a dining room table in suburban Portland and chatted amiably as they had every Friday for thirty-four years until one of them sounded a tone on a bronze bell at 8 p.m. Then the group began to chant in Sanskrit, the room became intensely still, and we meditated to the sounds of Beethoven. The healing meditations that followed involved chanting in Sanskrit over photographs sent by the patients and focusing to visualize healing energy flowing into their injuries. And then we would have dessert and tell stories. Every Friday for eight years, I joined them, enjoyed and learned from them.

One time when Harry was there, on a special occasion, the intense stillness assumed a new dimension during the meditation and it seemed as if the world simply disappeared. Matter disappeared, the walls vanished, and with my eyes closed I was transported into a reality where we were all one with everything. The universe was a dark and vibrant web of energy connected by invisible threads of light. There was *no thing*. It was just oneness; it was a light that cast no shadow, a sweet melody without sound that filled me up in timeless space. I didn't know how to tell anyone about it, and I had never heard about anything like this happening to people. That stillness, that oneness, came back with me into the treatment rooms. And I went back to work not knowing that everything had just changed forever. I could still get tired and cranky,

impatient and irritated, but when I needed to, I could take a breath and go back to oneness and knowing. When I returned from that vision, I was never the same.

Back at the clinic, the referred cases led to an entirely new understanding about what causes shoulder pain, or any pain. We all think of the shoulder as the joint and muscles that move your arm because we can see it and dissect in an anatomy lab. Joints have bone and cartilage, tendons and the bursas to protect the tendons, and a joint capsule to tie it all up. Muscles move the joint, and muscles have a muscle belly, connective tissue, and tendons that connect them to the bone. The outside lining of the bone is a very pain-sensitive tissue called the periosteum. There are frequencies on the list for all of these tissues that work really well.

When physical therapists, chiropractors, and surgeons treat the shoulder, they think of the joint and the muscles, and I was no different. When we began treating these "failed" shoulder patients, we started out treating the muscles and the joint, and when that didn't work, we went looking for why. There had to be a way to fix this shoulder, or this patient wouldn't be here. What was I missing?

There were large colorful laminated charts on the treatment room walls showing muscle-pain patterns and nerve-distribution diagrams. As I sat there working unsuccessfully on a painful "failed" shoulder, my gaze wandered to the diagrams on the wall. There was the familiar muscle chart on the left side, and then my eyes traveled to the nerve-pain diagram next to it and stopped. The room got still as I saw the answer. There were nerves to the shoulder. There is a frequency for the nerve. What makes nerves painful? Inflammation makes nerves painful. There is a frequency for inflammation.

I combined those two frequencies, and we found out how much shoulder pain is caused by three of the nerves that come from the neck. *C* stands for *cervical,* which for some reason means "coming from the neck." There are eight nerves that come out of the cervical spine or neck and the middle ones, the C4, C5, and C6 nerves, end up carrying motor signals, sensation, and pain for the shoulder. There is no easy way to treat nerve pain in medicine, and unless it is obvious that the patient needs neck surgery, no one checks for it. It's part of any complete physical, but it's easy to skip unless you have a good reason to check for it.

Finding nerve pain turned out to be fairly simple. We used a pinwheel to test sensation for sharpness. The pinwheel is a little circle of sharp points on the end of a short handle; it looks a little like a pizza cutter or a pattern wheel. It should just feel sharp. But if the nerve is inflamed, it feels "icky" and it is probably what is causing the patient's pain. The medical term is hyperesthesia. *Hyper* is medicalese for "way too much," and *esthesia* means

"sensation." Like *anesthesia* means "no sensation," *hyperesthesia* means "way too much sensation." And a nerve that is hyper is a nerve that creates pain. Nerves that are numb can also create pain, but that's another conversation.

The frequencies ended up being very specific. Resonance is very specific. If the pain is coming from a nerve, only the frequencies to reduce inflammation in the nerve will reduce the pain. And that's what happened. We started treating inflammation in the nerve with the current running from the neck to the elbow, and not only did the nerve pain go down, most of the muscle knots disappeared. Once the nerve was quiet, treating the muscle and the joint turned out to be easy.

Detailed patient histories and physical exams taught us how nerves became painful. Small disc bulges in the neck could irritate a nerve and create shoulder and neck pain. Spinal discs are located very close to nerves, and discs contain the biological equivalent of battery acid. Nerves do not respond well to biological battery acid, and we could eliminate the nerve pain by reducing the inflammation with the frequencies. Most of the time the patient didn't need neck surgery; the disc just needed some time to heal, and the patient needed help to reduce the pain.

Nerves and even the spinal cord could be stretched by the force of the accident and become pain generators. When a nerve is physically stretched in an accident, they call it a nerve-traction injury. No one taught us in school about nerve-traction injuries, but once we could treat them, they became obvious. Let me explain.

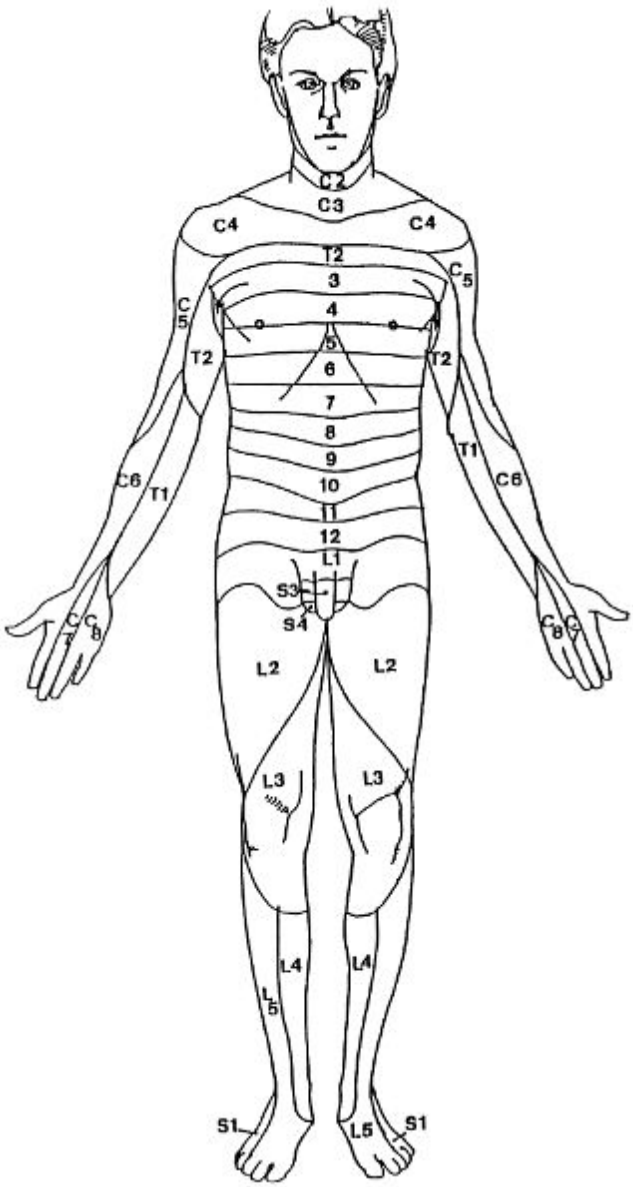

Figure 2.1. Shoulder nerve-pain diagram. This chart shows the nerves for sensation that can cause pain in the shoulder. You can see the areas in the shoulder marked C4, C5, and T2. When these nerves become inflamed or injured, they create pain that appears to come from the shoulder joint. Treating the nerve reduced the shoulder pain and showed us how much shoulder pain comes from nerves and not the muscles or the joint.

The seat belt that is going to save your life secures your left shoulder to the seat when your car gets hit from the side and spins. Your left shoulder is pinned to the seat and your neck and trunk take off to the right. The forces from the impact stretch the muscles in the neck and also stretch the C5 nerve root that runs from the neck to the shoulder between the muscles. The muscles recover in about twelve weeks, but the nerve does not. It can take years for the nerve to recover because they grow back so slowly. Nerves repair at a rate of four hundredths of an inch per day, and sometimes they never recover. When the left C5 nerve gets stretched, the pain shows up at the end of the nerve root in the left shoulder muscles and upper arm. It feels like a constant deep aching pain in the shoulder that most people rate at a 7 out of 10, and pain meds don't

help much. It's pretty horrible, and you'll do anything to get rid of it, including surgery.

The surgeon orders a shoulder MRI and sees a little bone spur and maybe a small tear in the tendon, so they schedule the surgery that will fix the pain. Most surgeons don't check the nerve as part of their exam, so they don't even think about the C5 nerve root because it doesn't show up on the MRI. Surgery repairs the small tendon tear and takes off the little bone spur but it doesn't fix the pain. As a matter of fact, the pain often gets worse because they stretch the nerve again during the surgery. And then the scar tissue from the surgery restricts the range of motion in the shoulder, and now the patient has a "bad outcome."

The frequencies were ideal for shoulder patients because they were so specific. If the problem was the nerve, we treated the nerve with the frequencies for the nerve, and the pain went away. But if the problem was the muscles, bursa, or joint, treating the nerve did nothing. It was a very steep learning curve as we figured all of this out. When Dr. Puziss started sending his poor outcome patients, my small suburban practice went from forty-five patients a week to ninety patients a week in sixty days.

The clinic was hectic five days a week, working through lunch was normal, and the days were long for everyone. I listened for the quiet voice. I rarely got home before 8 p.m., and my teenage children were raising themselves during the week.

> The frequency treatment protocols involve one frequency on channel A to resolve or dissolve the pathology causing the problem and one frequency from the list on channel B that targets the correct tissue. A frequency is the number of pulses per second in an electrical waveform. The microcurrent machine creates the electrical pulses. Current is the flow of electrons past a point in space, and it is measured in amperes because someone named Ampère discovered it. Batteries store electrons or current inside and then release the stored electrons in a stream. If you put enough circuit boards in the path of the electrons, they will come out as pulses of current that alternate polarity. How the circuits do that is more than you want to know and more than I want to tell you, but that's how it works. Pulses at regular intervals in the electrical current are called frequencies. They are described and counted as pulses per second. One pulse per second is a frequency of 1 hertz. Forty pulses per second is a frequency of 40 hertz, and so on.

In that first year, we spent a lot of time trying to figure out what worked and what didn't work and trying to make sure it was the frequencies and the current and not some placebo effect. You had to wonder if it was really the frequencies and the microcurrent doing it, or were the amazing results all because the walls in the clinic were light pink and I was a nice person? Was it all placebo effect? Or was it reproducible? Were the frequencies and the current really doing the work, and could anyone with training create the same results?

When we got so busy that I couldn't handle the patient flow on my own, a naturopathic student came to help in the clinic. Kristi Hughes was a dear friend and a bright redheaded bundle of energy, intelligence, and enthusiasm. I met her five years earlier when she started out in chiropractic college while I was a student there. After her second year of chiropractic college, she switched to the naturopathic college, but kept in touch and loved what we were doing with frequency specific microcurrent. Kristi started working as a preceptor three half days a week and operated the machine while I put on the gloves and treated the patients. She picked the frequencies from the list so my positive expectation couldn't influence the treatment results. She left the machine off sometimes until we figured out that I could always tell that the treatment wasn't working. She chose the frequencies and decided what channel to put them on until we figured out what worked best. Condition on A, tissue on B, and both frequencies had to be correct for what was causing the patient's problem. Sometimes on Friday nights she came to the pub down the street to decompress over a Guinness and recover from a week of the mental and physical effort involved in treating patients with impossible conditions.

After a year, the protocols became more or less standardized. The same frequency combinations seemed to work on everyone with the same condition. Results were coming faster and we had fewer failures. It was time to teach it to see if it was reproducible.

There was something about Kristi and her authentic enthusiasm that resonated with people. When she told people at the National College of Naturopathic Medicine (NCNM) about the results we were getting, people started asking for a class. The word was spreading out in the community too. Chiropractors were referring their failure patients, and when those patients recovered, they wanted to find out how to do what we were doing. One year after the dizzy longshoreman recovered, Kristi, George, and I decided to teach the frequency protocols as a course to find out if our results were reproducible.

Kristi and I met in the pub over Guinness one Friday night and decided what to call the technique. We named it frequency specific microcurrent,

FSM, because that's what it was. It was microcurrent and it used specific frequencies. Another naturopathic student listened in and doodled letters on a napkin while we talked until he came up with what would be the FSM logo for the next ten years. And we picked the date for the seminar. The kids and George ate alone that night, and I got home at 10 p.m. Later that month, a friend from the Oregon Board of Chiropractic Examiners decided that the technique was not experimental but rather an extension of traditional microcurrent therapy, and approved the course for sixteen hours of continuing education credits for chiropractors. The board of naturopathic examiners followed suit. These were crucial endorsements for a new technique.

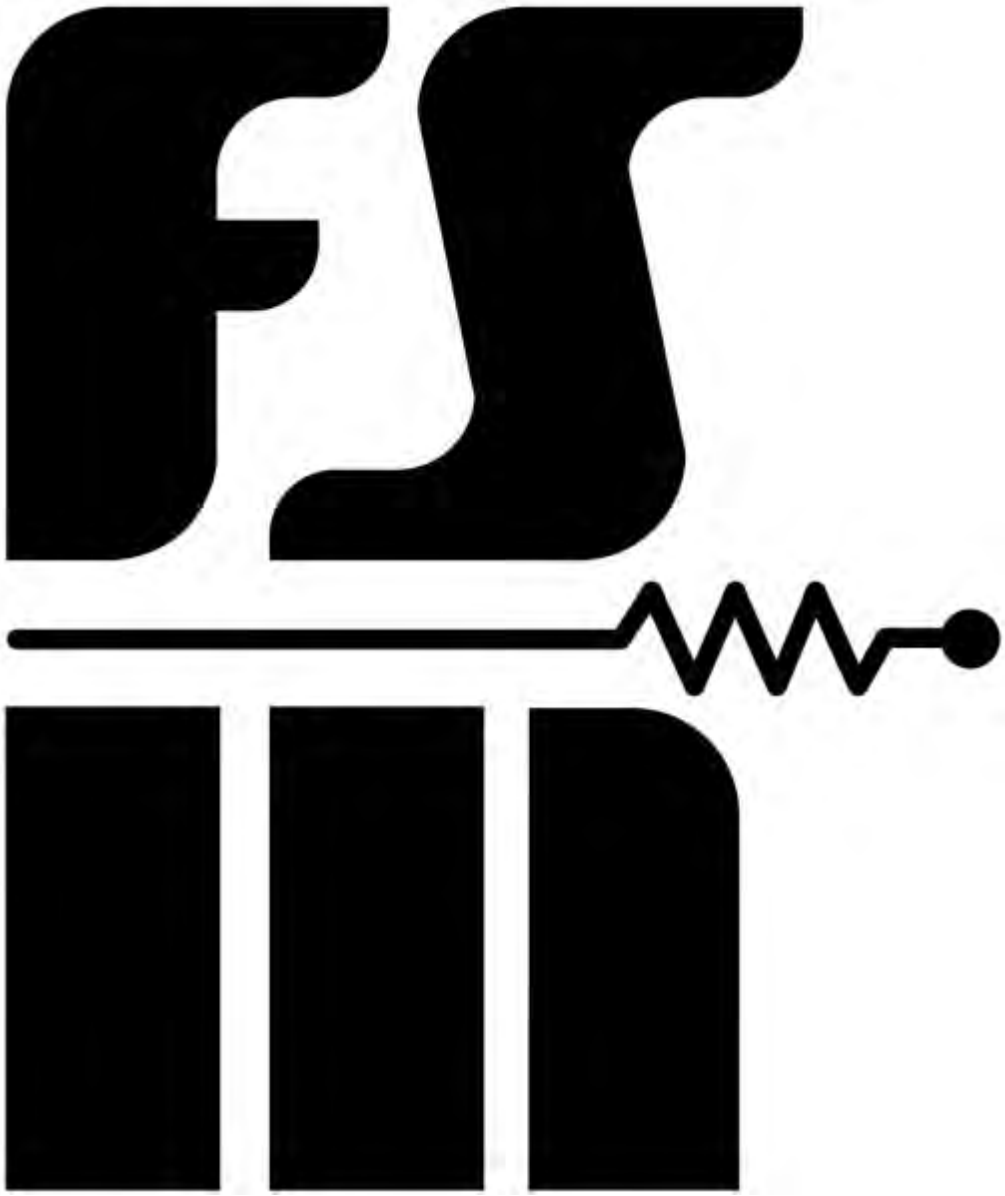

Figure 2.2. The original FSM logo was written in felt pen on a bar napkin on a Friday night in a local pub. A few years later it was modified slightly to create this version.

That first class was held at the naturopathic college on January 18, 1997. We printed flyers at the local copy shop, and the kids and I put labels and stamps on the flyers while we watched TV. George and Kristi came with me on a cold rainy Saturday morning, and we brought a teakettle and break food from home. A class of twenty-five chiropractors and naturopathic students at NCNM sat in a classroom with no heat because the boiler in the old building didn't work very well on the weekends. I wrote the notes on a green chalkboard and the students used a ten-page Word document as a handout. By today's standards, the class was pretty awful. I spent too much time on historical nonspecific microcurrent and not enough on the frequency effects. But a few people from the course purchased equipment from the local Precision Microcurrent vendor, Doug Casey, and went home to try it out.

Six months later, they were creating the same results we saw. The frequencies worked. It wasn't a placebo effect. Patients were getting better. And anyone could do it.

We treated 150 patients with chronic muscle pain between 1996 and September 1997. When we collected and analyzed the data from their charts, we found that they were an average of seven years chronic, and 88 percent of them had failed with chiropractors, physical therapists, acupuncturists, or medical physicians. Their average incoming pain was a 6.8 out of 10, and after eleven treatments over eight weeks, their pain was an average of 1 or 2 out of 10. From a science standpoint, it wasn't a perfect experiment because there was no control group. But in one sense the patients formed their own control group. If they were going to have a placebo response, it was assumed they would have had it with one of the five practitioners they saw before they got to us.

I met a California chiropractor at a meeting in May 1997 who was helping to pick the speakers for the American Back Society conference, to be held in San Francisco in December 1997, and told her about our outcome data. She arranged for me to do a workshop at this national meeting. It was my first-ever lecture as a physician at a big medical meeting. Kristy, George, and I felt like small town amateurs when we walked into the soaring hotel lobby trailing my teenagers behind us. It was a little intimidating.

Four hundred physicians attending the main morning lecture heard the speaker declare that trigger points were caused by emotional factors. The lecturer said that muscle trigger points must be psychogenic because they were so difficult to treat and so impossible to cure. I treated trigger points with manual therapy, with my trusty thumbs, for six years before we developed FSM, and patients usually improved. With FSM they almost always recovered fairly quickly. I was completely unprepared to hear that anyone thought trigger points were all psychogenic and incurable since there

were any number of articles and even a textbook that told people how to fix them. I was naively shocked that anyone would give this person a microphone and put him behind a podium. My life and education in traditional medicine was just beginning. I had a lot to learn.

My workshop for a much smaller audience that afternoon showed that almost all of our patients recovered in a matter of eleven weeks with an average of two treatments a week. When I went to the plenary speaker's workshop later that night and shared the clinical data, he was polite but a little skeptical and asked if it had been published. I knew I had to take the next step.

That step happened when another friend, a gentle retired chiropractic college administrator, introduced me to the editor of a journal called *Topics in Clinical Chiropractic.* With their encouragement I wrote up the cases of trigger points in the head, neck, and face and submitted them to the journal in February 1998. The friendly editor held my hand and was patient while I wrote the revisions and made the paper acceptable to the reviewers. The first FSM paper was published in August 1998. If you read the paper, you'll find very little mention of the frequency effects. I wanted to keep a low profile and get it published without rocking the boat so I could send the reprint to the lecturer from San Francisco. I never did hear back from him, but the word began to spread that there was a new way to treat muscle pain and trigger points.

In January 1999, Marshall Bedder, a medical doctor, called to ask if I would join his new pain management group in Northwest Portland. He heard through the grapevine about our outcomes and he wanted Advanced Pain Management Group (APMG) to be a model for comprehensive care, offering traditional medical approaches such as medication and injection therapies as well as successful alternative therapies such as FSM and chiropractic. This multidisciplinary approach was a dream of mine going back ten years, when I organized the Interdisciplinary Health Care Symposium with Oregon Health Sciences University medical school, Western States Chiropractic College, and NCNM naturopathic college. It was a smashing success for four years, and that symposium, plus the sixteen years working as a pharmaceutical rep, was the perfect background for working in an interdisciplinary pain clinic. I joined APMG when they first opened in March 1999. I saw the APMG patients two days a week at their Northwest Portland office and treated the east county patients at my clinic three days a week.

The pain clinic brought a new level of intensity to the pain patients I saw. The kind of patients who come to a medical pain management clinic are a notch above community chiropractic patients in complexity and severity, and the experience exposed me to conditions, interventions, and attitudes I didn't know existed.

At the pain clinic I met the chronic lower back pain patient who told me that her pain started three years before when she lifted trashcans to put them out to the curb. She had previously failed with chiropractic care and said that chiropractic, massage, and acupuncture all made her worse. Her pain was intolerable but she didn't like the way pain meds made her feel, and my colleagues at the pain clinic were thinking about putting in a spinal cord electrical stimulator to block the pain. But they sent her to me first. An intelligent forty-something professional, she missed riding her bike and missed being able to hike and exercise. She improved with the standard frequency protocols for inflammation in the spinal joints and trigger points in the muscles.

After one month of FSM twice a week at the pain clinic, she was almost completely pain-free. Almost. One day in week five, there was one golf ball–size tender knot in the right side of her lower back. The golf ball in this square muscle, called the quadratus lumborum (QL) because it has four sides (*quad* ratus) and is located in the lumbar spine (lumborum), was tender enough to make her flinch when I pressed on the knot. That day, treating the nerve, the muscle, and the joints for all the usual pathologies did nothing to that knot—absolutely nothing.

I took a breath and listened for the quiet voice, putting my eyes at the end of my fingers. This thick lower back postural muscle lies right next to the spine and stabilizes the spine during movement. My fingers told me that the knot was in the muscle belly, so channel B was easy. It stayed set on 62 hertz, the frequency for the muscle belly.

But what was wrong with the muscle belly? What frequency would make the knot go away? I knew the frequencies had to be specific and correct for what was causing the problem. For the first four weeks of her treatment, everything was obvious. There were trigger points in the lower back muscle that attaches to the front of the spine, the psoas. Those were easy. Treating inflammation in the lower back discs and in the posterior spinal joints was easy. The posterior spinal joints are called facet joints for some reason I still don't understand, since they don't have facets like a diamond, but that's another conversation. All of those conditions in all of those tissues had been treated and seemed to be gone, but none of them changed this knot.

The channel A frequencies for the conditions were listed in alphabetical order on the laminated frequency list. There was one graphite conductive glove under her tummy and the other glove was on my right hand on her lower back as she lay facedown on the treatment table.

What is wrong with this muscle? What was I missing? I looked at the laminated sheet of condition frequencies waiting for the correct frequency to stand out as if in bold print. But it didn't happen. I had absolutely no clue. So

I decided to go down the list in alphabetical order, one frequency at a time. If the frequencies were correct and always worked, then one of them would change the knot.

Table 2.1. Channel A: Conditions

9	allergy reaction
294, 321, 9	“basics”: trauma, paralysis, allergy
94	concussion, nerve trauma
50	congestion
284	chronic inflammation, “deep old bruise”
59	cystic condition
970	emotional component
51	fibrosis
18	hemorrhage, leaking
61	infection “parasite” or virus
40	inflammation
91	hardening, “stone,” calcium deposits
49	vitality—promotes vitality

The first condition frequency on the list was allergy reaction. We knew from treating hives that 9 hertz would reduce the allergy chemical called histamine, and some pain nerves are sensitive to histamine. It made sense that histamine could be the problem. When a frequency is correct for both the condition and the tissue, the glove gets warm and the tissue softens. The knot would just melt when the frequencies were right. And none of that happened using “allergy reaction” with the setting for “muscle belly.” Both frequencies have to be correct, and I was pretty sure the muscle belly was the right tissue.

The B for “basics” frequencies for trauma did nothing. Nothing got warm, nothing got soft. With C for “concussion or nerve trauma,” the glove on my right hand was cold and the knot was still hard and tender. I used the C’s for sixty seconds each—Congestion 50 hertz, chronic inflammation 284 hertz, and cystic condition 59 hertz—and the stubborn tender knot stayed the same. I was getting a little nervous. What if nothing changed?

The next on the list was E, 970 hertz for the emotional component, and it happened. The glove on my hand got warm in seconds, and then it felt hot. The lower back muscles started to soften, and the knot was smaller by half within a few minutes. I had no idea why. The history said she lifted a trashcan and hurt her back three years before. There was no mention of any emotional issue in her history.

She exclaimed, “That’s it! It’s warm. The pain went down. What did you do? What was it?”

“There’s still half of the knot left in the muscle,” I said. “I’ll tell you what it was when we get rid of the other half of the knot.” I continued down the list in alphabetical order. Now we both knew I was working in the dark. If there was an emotional component that I missed, what else had I missed in the history? What else was wrong with this muscle?

I had some hope for the next frequency on the list. F for fibrosis made sense, but it didn’t change the other half of the knot. Then we came to H, but that frequency, to stop hemorrhage and bleeding, that worked so well to reduce pain and prevent bruising in a new injury, did nothing.

Then there was I for infection, parasite or virus. Immediately the glove got hot on my hand and on her back. The last half of the golf-ball sized muscle knot melted and slowly disappeared over the next two minutes. It is the weirdest sensation. Short of surgical anesthesia, there is nothing that feels like this anyplace in medicine. The knot just melts; the muscle gets “smooshy,” but in a good way, because what’s left is soft, pain-free normal muscle.

She could feel it and said, “That’s warm. What is that? It doesn’t hurt any more. It’s gone. What did you do? Three years of this, and it’s gone.” She came up on her elbow and then sat up to look at me. “What finally worked?”

“First, let me ask you exactly what was going on in your life when you lifted those trashcans? Don’t leave anything out.”

She then told me the whole story. She had been lying on the couch for a week with a cold and the flu. Her boyfriend of five years found a new girlfriend and moved out on a Friday night to his new apartment. On Sunday morning she was still sad, angry, miserable, and sick on the couch, when it occurred to her that the trash pickup happened on Monday morning, and what used to be his job was now her job. As she told the story, I could see her throw

on her fluffy bathrobe, put on her fuzzy slippers, and stomp her way out to the curb muttering about how she had to take out the trash because he didn't care that she was sick, and he was in his new apartment with his new girlfriend. … Mutter, mutter, grumble, grumble. She lifted the can to put it out to the curb, and her back muscles seized up.

It probably started as muscle strain, and maybe there was a little disc inflammation. Then the chiropractor adjusted her lower back three times a week for a year, and that treatment inflamed the facet joints. After that she didn't tolerate massage or acupuncture because patients lie facedown, and that compresses inflamed posterior facet joints and increases pain. The muscles developed knots, and the pain just got worse for the next two years. Out of desperation she ended up at the pain clinic looking for help and maybe an implanted spinal cord stimulator, and the front desk sent her to me before they increased her narcotics.

She said, "So what frequencies worked?"

I said, "The frequency for an 'emotional component' was the first one. It took the knot and the pain down by half. The frequency for infection or virus took care of the rest of it."

"Really?" she said.

It is safe to say that we were both stunned.

In medicine, the gold standard for research is the double-blind placebo-controlled clinical trial. Neither the patient nor the doctor knows which is the real drug and which is the placebo, the inactive pretend drug. They have to wait to see if the real drug has a better effect than the placebo. They are "blinded" to what's being used. Going down the alphabetical frequency list was as close to a blinded trial as a clinician researcher could get. I didn't know the history. She didn't know what frequencies I was running, and you can't feel the current. It was rather like the blind treating the blind.

That was the day I learned with certainty that the frequencies will always, always do what they are described as doing, but they will only do what they are described as doing. I don't think those two frequencies for those two conditions would have worked on their own as a stand-alone treatment in the beginning. I think we had to correct the structural problems, use the frequencies to take mineral deposits out of the muscle and fascia, quiet down nerve inflammation, remove the adhesions between the nerve and the muscle, and take inflammation out of the spinal joints and the discs to make the pain go away. The knot that remained did not respond to those frequencies because those frequencies didn't treat what was causing the knot. There had to be something I was missing.

The resonance effect disclosed the missing piece. That was the day I began to appreciate how specific and how accurate the frequencies are. The frequencies have to be correct. When the frequencies are correct, they seem to remove the pathologies almost immediately. But to restore healthy pain-free function, you have to understand the whole picture. The patient history was going to have to change. It had to be more complete. How many weeks of treatment would have been saved if I had used the frequencies for emotion and infection on the second treatment instead of waiting five weeks for the ninth treatment? If my history-taking had been more thorough, I might have used those frequencies earlier in the treatment process, and perhaps she would have recovered more quickly.

Note to self: take a very thorough history. If the only thing you can do to painful tissue is to treat it with drugs, inject it, mash on it with your thumbs, or adjust the joints, the history doesn't matter that much because it isn't going to change what you do. Now, because the frequencies were so specific, I had to learn to take a more detailed history, because it would change the treatment. If the patient had an organic chemical exposure just before the onset of pain, we had to use the frequencies to remove toxins. Nothing else would work. It was a whole new world in history-taking and a very steep learning curve. I hated making the same mistake twice.

The following week, the APMG front desk sent me a woman from the Oregon coast who lived two hours away. She had full-body pain rated as an 8 out of 10 for seven years following an auto accident. They had tried narcotics and trigger-point injections, hypnosis, and acupuncture, and nothing worked. All of her muscles were tight and full of painful knots, and the nerves everywhere were hypersensitive. Her skin was so sensitive and painful that just touching her would make her sweat and flinch. Her hands and feet burned and ached. Nothing made sense.

Pain was everywhere; no single structure would create that much pain. The room was suddenly quiet and there was an image of the spinal cord in my mind. Could the spinal cord create that much pain? I had never treated the spinal cord before. The spinal cord conveyed pain from everywhere to the brain. There is a frequency on the channel B list for the spinal cord. What would be wrong with the spinal cord that could make everything that painful? Inflammation creates pain. 40 hertz is the frequency on the list to neutralize inflammation. I put 40 hertz on channel A to neutralize inflammation and set 10 hertz on channel B to direct it to the spinal cord. Robert Becker discovered that the human body has its own polarized positive current flow and published the diagram in *The Body Electric*. [2] Your body has a positive charge at the top and along the spine and a negative charge down in the hands and feet. It made sense to match that.

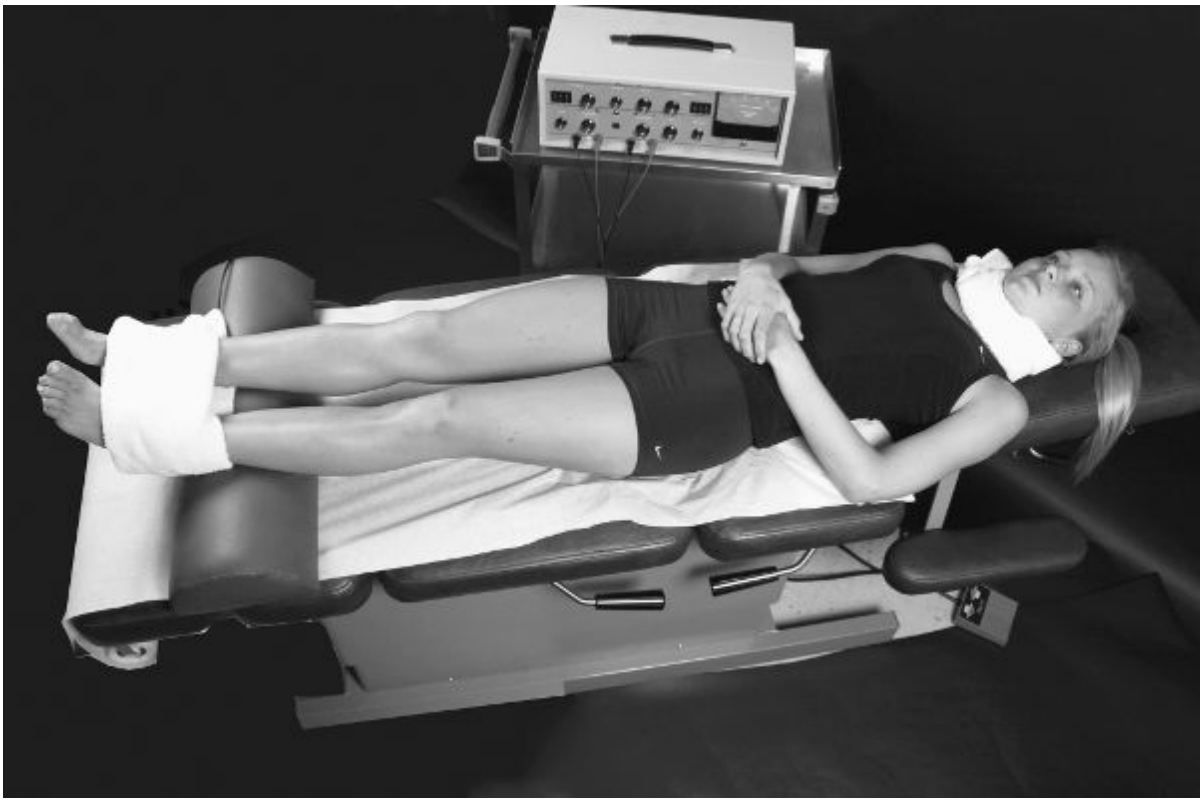

Figure 2.3. Treating fibromyalgia. The contacts for fibromyalgia from spine-trauma treatment were applied with one graphite current-conducting glove wrapped in a warm wet towel around the neck and a second graphite glove wrapped in a warm wet towel around the feet. The machine was set at 40 hertz on channel A to reduce inflammation and 10 hertz on channel B to address the spinal cord. The current was polarized positive to match the body's natural polarity. The pain was reduced first in the feet and legs and by sixty minutes the body pain was gone.

I put the graphite glove with the positive leads from channel A and channel B around her neck and put the negative leads from both channels in the second glove and put it under her feet as she sat on the edge of the treatment table. It hurt too much for her to lie down. I turned the machine on and turned the knob that would polarize the current from the machine, just like the natural current in the body is polarized positively from head to feet.

At first nothing seemed to happen, and then, after a few minutes, she took a deep breath and stopped sweating. She started breathing more slowly, leaned back against me and stopped talking. After twenty minutes, I asked about her pain level. "My neck is still an 8 but my feet don't burn, my legs don't hurt, and I feel all floaty." We continued with the same frequencies. The graphite glove was warm on her neck, and her body pain kept dropping. After sixty minutes her pain was a 2. This was as close to a miracle as either of us had ever seen.

She came back the next week and told me that the pain stayed gone for three days, but now it was back to a 7. We treated her again with 40 hertz on channel A and 10 hertz on channel B, and in sixty minutes her pain was down to a 2. We repeated this every week for three weeks. It never lasted more than three days, and each time it came back, it would be a notch lower than it was

before. This was the first of the treatments that would bring hope to millions of patients with the same symptoms. She called the clinic at the beginning of week four to say that the travel was too much and she couldn't afford to continue treatment.

I shared these and other successes at our weekly pain clinic staff meetings. Dr. Bedder was smiling with approval, but the staff pain psychologist was frowning and shifting in his seat. When it was his turn to talk, he tapped his manicured fingers on the polished table, avoided my gaze, looked at Dr. Bedder, and said he was worried about what would happen to their reputation in the medical community if they became known as a pain clinic that got people better. The room got still, but not in a good way. After my experiences helping their impossible patients with intolerable pain, I simply couldn't believe what I heard. I asked him to clarify, and he repeated the sentiment. Four of the five doctors around the table nodded in agreement. It left me stunned and a little nauseated. I had no idea that pain doctors, or any doctors, could feel that way. I couldn't imagine that anyone would not want to help people recover. They wanted to "manage" the pain like everyone else. That attitude didn't resonate with me at all. I couldn't do it. I handed in my resignation the next week and went back to my clinic in the suburbs, where we wanted to help people recover.

3.

40 Hertz: The Frequency That Changed Everything

It was easier working in only one location, and I was glad to be back in our little suburban clinic full-time, treating so many different conditions and helping patients recover. Muscle and nerve pain, fibromyalgia, asthma, lower back pain, prostate trouble, digestive problems, shoulder pain, disc bulges, and migraines were all pretty common conditions treated in an Oregon chiropractic clinic. Chiropractors in Oregon have a very broad scope of practice, and we end up being like general practitioners who don't prescribe drugs; we see everything that walks in the door but use chiropractic, soft tissue work, supplements, and lifestyle modification to treat instead of drugs. Every patient who improved or recovered told friends, and every week the clinic became busier.

The clinic was booked solid with three patients an hour, all day, every day, five days a week. Sleep was tricky, what with menopause and stress, but sleep or no sleep, the day started early with breakfast and driving Adam to school, and then patients started at 9 a.m. Every twenty minutes between 9 a.m. and noon and between 2 and 6 p.m., a patient was escorted into one of the three treatment rooms.

The fourth treatment room was occupied by Dina and her massage table. Dina was a nurse doing massage in Russian hospitals for twenty years before she came from Russian Georgia with her husband as a Christian refugee in the 1980s. Efficient, strong, incredibly skilled, pragmatic, and kind, her sweet laughter, thick accent, and kind heart would soften the patients' souls as much as their muscles before they saw me. Lunchtime gave Dina time to read her Bible and take a nap, and gave me two hours to catch up from being behind in the morning and grab a bite to eat. My 6 p.m. patient was usually finished by 7 or 8, and my kids were raising themselves, but then so did I when I was their age, so it didn't seem that unusual. It says something that I can remember what year I left the pain clinic but had to ask my daughter what year she dropped out of high school and started junior college; it was 1998.

The clinic was packed and bursting at the seams, and it became obvious that we needed more treatment rooms and space for clinical associates to learn and build their practices. In the wet cold winter of 1998 we began the clinic

remodel to add four treatment rooms and a bathroom with a jetted hot tub. It seemed like a good idea at the time.

Patients normally recovered from most things in two to twelve months with chiropractic, massage therapy, and natural therapies like diet and lifestyle modification. The new medical science called functional medicine taught us how to address the causes of diseases, not just the symptoms. When we treated asthma, functional medicine started with digestion and the gut because the immune system surrounds the gut and the hypervigilant immune system causes asthma. When I added the frequencies to the functional medicine protocols, people started recovering in two to twelve weeks instead of two to twelve months.

There was one frequency on the list that made everything easier. The list said "inflammation 40 hertz," which meant to us, "When you use 40 hertz, you will neutralize inflammation." Inflammation causes most of our health problems, every degenerative disease, and virtually all of our pain complaints. Anti-inflammatory drugs are a billion-dollar industry. The 40 hertz frequency was like electronic ibuprofen, only it worked faster and didn't upset your stomach. The day a melon-size knee in a rheumatoid-arthritis patient became normal size and pain-free in forty minutes, I finally became convinced that this frequency was special.

Treating arthritis, neck, and shoulder pain as well as asthma and lower back, nerve, and muscle pain twelve to fifteen times a day was a normal practice day. When someone came in with all of them at once, she had fibromyalgia. Fibromyalgia can be a tricky diagnosis. If the patient has pain and the doctors can't figure out why, they can call it fibromyalgia and not worry too much about treating it, because everyone knows fibromyalgia is untreatable and incurable. The patient is told to learn to live with it, treated with antidepressants, given a little something for pain, and then begins the lifelong struggle to function.

When patients improved, they told their friends and their doctors, and the word got out. Referrals came from everywhere, and by the end of 1999 there were twenty-four patients with fibromyalgia from spine trauma who were out of pain when they left the clinic after each visit. Sixty percent of them stayed with treatment until the fibromyalgia was gone. After all of this, I thought I was ready for anything.

In December 1999, the pain clinic sent us a very chronic and very sick fibromyalgia patient. In her mid-forties with curly gray-streaked hair and an engaging smile, this patient had determination and a positive attitude that lit up the clinic whenever she came in. She looked like a woman on a mission. Her pain was an 8 out of 10, and she squirmed a little in the chair. Her strained face looked tired as she detailed the accident that did this to her

eighteen years earlier. She was stopped in traffic, rear-ended at thirty miles per hour, and totaled the car. The pain started the next day, just in her neck, but it was all over her body a month later.

"They say I have fibromyalgia, but nothing they give me does anything but make me more tired. The muscle relaxants help me sleep, but they make me feel stupid. The pain meds make the pain less bothersome but don't actually reduce it much. The doctors at the pain clinic say you do something different. I have fibromyalgia, but that is not who I am. I want to fix whatever this is and get my life back." Her mission became the treatment goal: "I want my life back."

"Tell me about your life," I said. "What do you do?"

"I can't do much. I used to work but I'm finally on disability. I wake up in the morning more tired than when I went to bed. My body pain is never less than a 5. Some days it is worse, like today. If I try to exercise like they told me to, my muscles hurt so bad for two weeks that I don't do much exercise any more. Keeping the house clean is hard but I try. I have a teenage son. I help get him to school. Some nights I can't manage to fix dinner, but my husband is a prince and he cooks for us. I don't have much interest in sex these days, and it hurts when he hugs me, so we don't get much in the way of cuddle time, which makes him even more amazing."

"How is your digestion?"

"Pretty awful. My gut hurts all the time. I seem to get bloated no matter what I eat. Some days I'm constipated; some days it's loose. I've gained weight, so I eat less and less, but it bothers me more. It seems as if I am allergic to everything. Dust bothers me. The grocery-store soap aisle gives me a headache. I can't wear perfume and can't be near anyone who does."

The physical exam confirmed that she had fibromyalgia. A normal patient will say "ouch" when you press on fourteen fibromyalgia tender points with eight to nine pounds from the pressure tester, called an algometer (a pain meter). These are points that should not be tender in most people. This patient said "ouch" and broke into a sweat when the pressure was one or two pounds on all eighteen tender points. That means that the brain is amplifying all touch, and turning even light pressure into pain signals. That means hugs hurt, and even a gentle caress would be painful.

The deep tendon reflexes at her knee weren't normal. The little muscle twitch that happens when the rubber hammer stretches the tendon at your knee is a normal reflex. The tendon sends a signal to the nerve that carries the impulse to the spinal cord, and the spinal cord sends a very quick message out to the muscle to tell it to contract with a little twitch. It's a good way to tell if the nervous system is healthy. If the nerve is compromised, the message

doesn't get through to the cord, and the reflex twitch is reduced. But an exaggerated twitch means something is wrong in the spinal cord.

Inflammation in the spinal cord slows the messages coming down from the brain to keep the muscles quiet, and the little reflex twitch becomes a huge contraction. This patient's hyperactive reflex told us that her spinal cord was inflamed—and we had frequencies for that.

Reading the cold clinical words about fibromyalgia in the medical journals doesn't begin to describe what life is like for a patient when everything hurts and nothing works the way it should. It doesn't prepare you for the skeptical cautious hope, courageous exhaustion, and desperate determination in the face of the person in front of you.

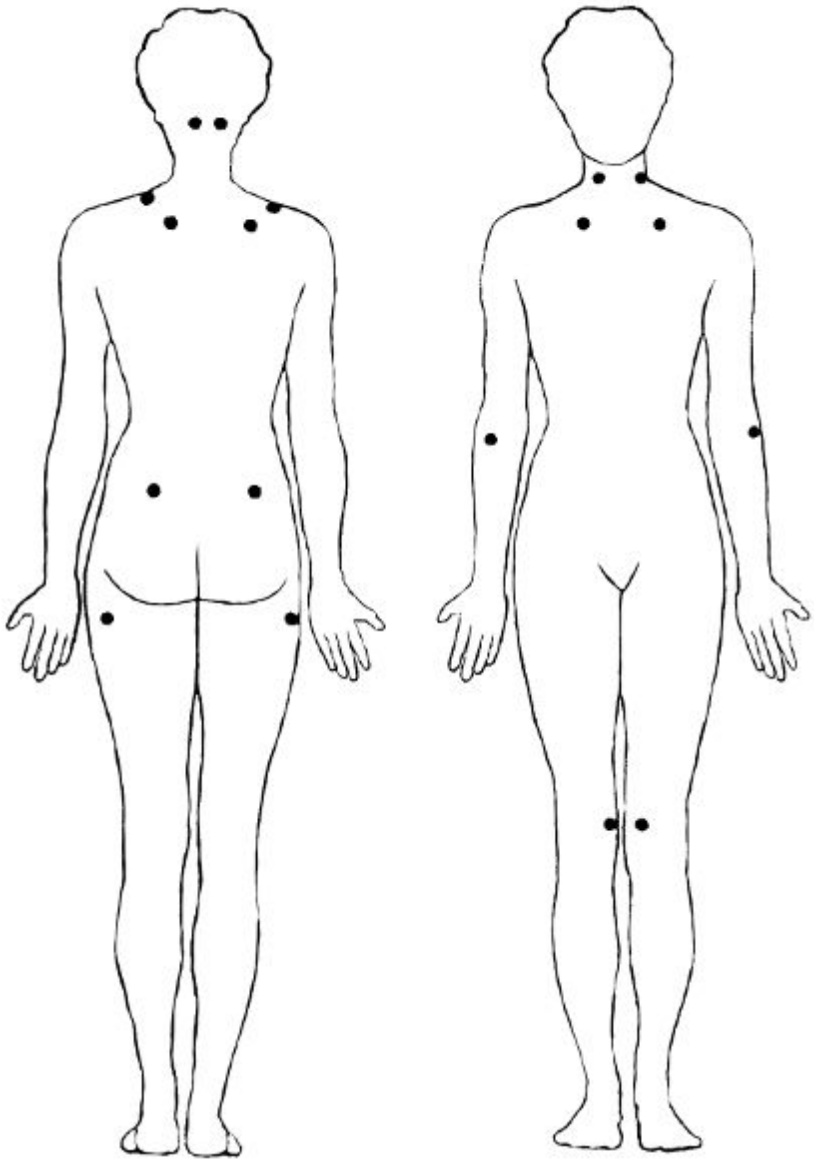

Figure 3.1. Fibromyalgia tender points. The dots on this diagram are spots that shouldn't be tender on a normal person. When you press on these spots with a gadget called an algometer that measures how much pressure is being applied, you record how many pounds per square inch pressure are applied when the patient says ouch. Fibromyalgia patients will have at least seven out of eighteen spots tender to less than four pounds per square inch pressure.

Treating the spinal cord for inflammation helped the woman from the coast and the other fibromyalgia patients after her, and this case was almost identical. Each patient was a little different, and each time there was always the question, would it work again?

The frequency to reduce inflammation, 40 hertz, was set on channel A. The frequency on the list for the spinal cord, 10 hertz, was set on channel B. These two frequencies used together should reduce inflammation in the spinal cord. I told patients that inflammation amplified the pain signals in the spinal cord, and treating to reduce inflammation reduced the amplification and reduced the pain. I didn't find out until later that the treatment was right but the model was completely wrong.

She had pain from her neck to her feet, so the machine was set up with the current flowing from her neck to her feet. The body is more positive at the top and negative at the bottom,[1] so we polarized the current positively to match the normal state.

In minutes, she stopped her cheerful chatting and became very quiet; her blinking slowed down as if she was getting sleepy, and her breathing became much slower and deeper. After fifteen minutes I asked her how she felt.

She struggled to open her eyes and replied sleepily, "I feel better. My neck still hurts but my legs feel heavy, and kind of floaty, and they don't hurt. That's weird."

She closed her eyes again, and twenty minutes later I asked her, "How do you feel? What's your pain level?"

"My neck still hurts but the pain is gone everywhere else."

She went back to sleep for another twenty minutes until I asked her again, "How do you feel? What's your pain level?"

She had the most peculiar look on her face when she answered that her pain level was a zero. No pain. Anywhere. She sat up and said she was a little spacey and lightheaded. The lightheadedness passed in a few seconds and she left the office pain-free. She rescheduled for two days later, and when she came back, her pain was a 6 instead of an 8. The pain bothered her more because it had been gone for a day, but it was actually less than before. We did the same treatment, and once again her pain went from a 6 to a 0 in sixty minutes.

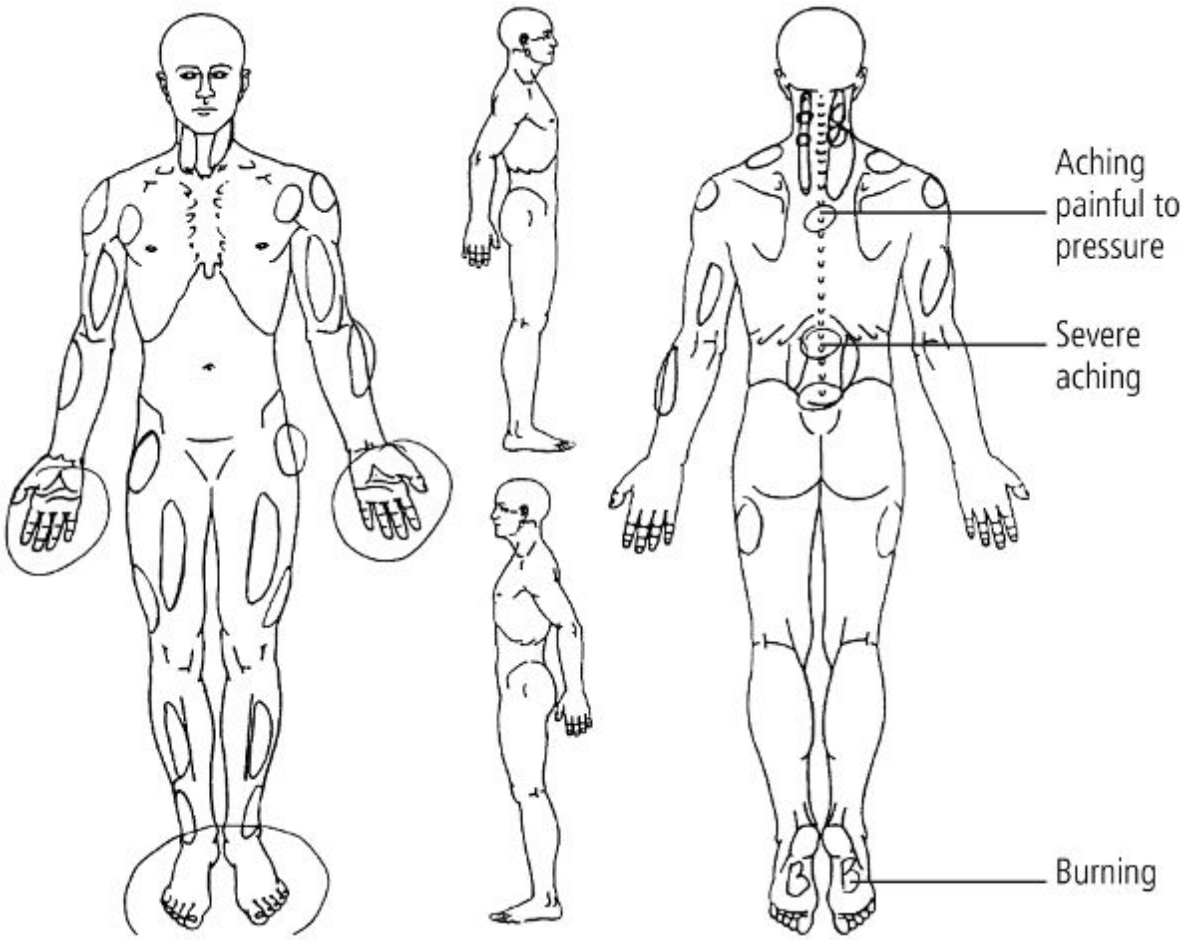

Figure 3.2. A typical fibromyalgia pain diagram for a patient who suffers from fibromyalgia associated with spine trauma. The pain scale is usually around 8 out of 10. The widespread pain is in both the upper and lower body. Patients with this type of fibromyalgia are the only ones who complain specifically about pain in the hands and feet. The pain diagram is different for patients who have fibromyalgia from other causes.

But the pain kept coming back every time she increased her activity. “I was doing great until I mopped the floor,” she said, and the next week, “I was doing great until I started putting dishes on the top shelf in the cupboard.” It wasn’t enough for her to be rid of pain; she wanted her life back, and life includes putting away the dishes.

While she was sitting on the treatment table, I asked her to bend forward from the waist and to stop when anything hurt or felt tight. People should be able to bend to almost ninety degrees while seated. She curled her trunk forward and stopped at ten degrees when it felt tight in her upper back. What was stopping her? The quote from pathology class, “Chronic inflammation leads to fibrosis and scarring,” floated into memory.

I hadn’t ever thought of it before, but if the spinal cord is inflamed for eighteen years, and if inflammation leads to fibrosis and scarring, then it made sense that the spinal cord could become scarred. The brain reacted and stopped any motion that stretched scarred spinal cord pain pathways.

It made sense to try the frequency for scarring, 13 hertz, on channel A. The frequency 40 hertz reduced inflammation and pain, but it didn't do anything to reduce scar tissue or increase range of motion. If 13 hertz worked to loosen scar tissue in the nerves and muscles, it should work in the spinal cord. That was the theory.

The frequency 13 hertz vibrates with the cross-link bonds that make scar tissue short, and then when you move the tissue, the bonds seem simply to come apart. It's like the singer's note that vibrates the lead atoms in a crystal glass. The resonance with the note makes the bonds vibrate so much that they come apart and the glass shatters. To get rid of scar tissue, the frequency vibrates the scar tissue bonds, and when you move the tissue, it breaks the loosened bonds. That was the theory.

It's hard to describe how the theory turned into a treatment. At the healing group on Friday nights we visualized patients recovering as we meditated, and that same feeling of calm focus came over me in the treatment room. No one told me to treat the spinal cord for inflammation or scarring, but there was a sense of knowing what to do. It was so clear. It felt right. It made sense, but it wasn't an intellectual decision. It felt right, and it felt congruent, smooth, and easy. And when I looked at the frequency sheet, it was as if 40 hertz was the only frequency on the page. And when we needed to increase her range of motion, it was as if 13 hertz stood out in bold print. It wasn't as much choosing as it was "knowing."

We knew by then that a frequency that didn't work wouldn't do any harm. Treatment "can't hurt; might help."

The process took twenty minutes. The microcurrent machine was connected at the neck and feet as she sat on the edge of the table and bent forward until her spine felt tight when she reached ten degrees. Then she sat back up again while we chatted about her hobbies until the next set of bonds loosened, and she bent forward again, and the range increase from ten degrees to twenty. She sat upright again and we talked about her garden for a few minutes while the frequency loosened the next set of bonds and she could bend forward to about forty-five degrees.

She sat up again and asked, "How is this possible?"

"I have to be honest. I've never done this before, so I'm not sure, but I think we're dissolving the scar tissue that tugs on your spinal cord and makes the pain return every time you bend or stretch."

The next time she bent to seventy-five degrees, and it was getting easier. And the last time she bent forward, she crept her hands down her thighs, touched her fingers to her toes, and stopped with her chest on her knees. She rested there for a minute, and then came back up with the most amazed look on her face. "I haven't been able to do that for seventeen years." After that she

could mop the floor, and reach up to the cupboard shelves, and stay pain-free for a week at a time.

She told her friends, the fibromyalgia support group, and her doctor about what happened, and the office got busier. I was working until seven or eight at night every day. Adam was sixteen, and I had no idea what his life was like until report card time or doctor's office visits. He went for pizza on Fridays with his friends, and I thought he was a normal sixteen-year-old boy who just didn't talk to me much. Wendy was at Mount Hood Community College, worked at the Mountain Writers Center, wrote amazing poetry and dense descriptive prose, and like a normal twenty-year-old, was rarely home. My stomach hurt every time I ate, and I thought it was just stress until a blood test showed I was very allergic to literally every food I was eating. I was allergic to every food except milk, eggs, and celery, which I didn't like and didn't eat. It seemed impossible, and I decided it must have been a lab error, so I put the report in the drawer and ignored it.

The determined fibromyalgia patient came back to the office twice a week for eight weeks, and by the end of the third week, something changed. She started sleeping better, and her digestion improved. Her acne disappeared when we figured out that she wasn't converting vitamin A from the water soluble beta-carotene into the active form and switched her to an oil-based version. Her night vision improved and her skin cleared up.

Her pain stayed down longer each time, and her body seemed to gently recover. After eight weeks, she stopped being cold all the time, and she wasn't as fatigued. The fourteen tender points weren't tender anymore; she loved being hugged. She started reducing her pain medication and then her other medications. She started exercising by taking walks at first, and then she could do exercises at physical therapy to help stabilize and heal her spine. She kept it up for three months, and each week her symptoms improved.

At the end of three months, she no longer had fibromyalgia. She had no tender points sensitive to less than seven pounds of pressure; she was off medication, sleeping well, and waking rested. Her digestion was normal, and she didn't feel cold. She had no symptoms of fibromyalgia. According to medicine, this is impossible. Fibromyalgia cannot be cured; it is a permanent condition.

Every fibromyalgia patient visit was sixty to ninety minutes, and we worked around them as they occupied a treatment room to keep up with the rest of the clinic patients. Every new patient needed to be seen twice a week for four to six weeks, and it wasn't uncommon to run out of treatment slots. We finally limited the schedule to one new patient a day, and ended up with a three-month wait for new patient visits. The office was organized chaos, and I was always behind schedule, but that seemed to be the cost of doing the

impossible. Every challenging patient was a learning experience. We had to learn what frequencies would treat which symptoms and what treatments would produce permanent improvement.

Things were crazed at home. I hit menopause in 1999 and stopped sleeping. My children were argumentative teenagers with their own lives and challenges, and there weren't enough hours in the day. I broke out into huge raised welts one night while eating a bowl of steamed cauliflower for dinner. Those welts made me pull the allergy test results out of the drawer and decide that I better pay attention to them. I learned to like milk, yogurt, celery, eggs, and lamb because they didn't give me stomach pain or welts.

George and I mostly just talked about the office, and the gentle relationship we had for eight years slipped away into the chaos. There was no time for the Healing Group or meditation, and the soft whisper of resonance seemed to happen only in the treatment room. I could see the appropriate frequencies stand out on the page as if in bold print for patients, but I couldn't see the realities of the lives of the people around me, including mine.

The fall of 1999 brought even more changes. I mentioned the fibromyalgia results to a colleague from the Anglo-European Chiropractic College when he came over for a continuing education meeting in June, and in September he invited me to lecture at a British pain and trauma conference in March 2000.

In October a colleague from the myofascial pain world, a medical doctor named Jay Shah, called and invited me to lecture in April 2000 for Grand Rounds at the National Institutes of Health (NIH), where he worked as a physiatrist doing research on myofascial pain and trigger points. No chiropractor had ever lectured at Grand Rounds in Building 10 at NIH, but his April speaker canceled, and he wanted our fibromyalgia results presented to his pain colleagues. This would be a first.

Jeff Bland, founder of the Institute for Functional Medicine (IFM), heard about the myofascial pain paper and interviewed me for his widely distributed *Functional Medicine Update* tape series in October 1999, and then invited me to speak at the May 2000 IFM International Symposium. The topic was energy medicine, and my afternoon workshop lecture would be called "Energy Medicine in Clinical Practice" and would tell the story of the "40/10" fibromyalgia patients, the patients whose pain went away only when the frequency 40 hertz was used on channel A and 10 hertz was used on channel B.

I bought a laptop and learned to make PowerPoint slides with help from one of the naturopathic student interns, Sonya Petersen. Patient files became a source of data for presentations. And without help from Google or Medline, which didn't exist at the time, I started doing searches at the med school library for literature to support what we found in clinical practice. Until then I

had deliberately avoided any information that might color my expectations about what frequencies to use and whether they might work. I used the frequencies first and observed the results, and then went to the literature to see if the results and the frequencies matched what medicine thought was true.

The medical literature said that spine trauma started the problems for 28 percent of fibromyalgia patients. That meant two million patients of the six million fibromyalgia patients in the United States could be helped with this protocol. Other research papers said that inflammation caused nerve pain and was involved in disc and spine injuries. This matched what we found with the frequencies; only the frequency to reduce inflammation in the nerves and the spinal cord reduced the pain.

But there was a surprise. Inflammation from spinal-disc injuries didn't amplify pain transmission in the nerves or spinal cord, as I had been saying for a year. The research showed inflammation damaged and ultimately destroyed nerves and stopped transmission. As I read these papers at 11 p.m. on a Saturday night in mid-December, I was stunned. My model for how spine injuries created full-body pain was completely wrong. The spinal discs contained the inflammatory equivalent of battery acid that can strip the lining from a nerve and destroy it in twenty-eight days. Inflammation didn't amplify pain signals in the spinal cord; inflammation from the disc material could damage the spinal cord pain pathways and stop nerve transmission.

But how could a chemical lesion that stopped messages in the spinal cord pain pathways create full-body pain? In the late night quiet of the office, my favorite premed neurophysiology textbook[2] stood out on the bookshelf next to me, as if there was a spotlight on it. The room became very still as the book attracted my fingers and the index sent me to the page for "spinal cord pain pathways." And there was the answer.

If you interrupt the pain pathways anywhere between the spinal cord and the brain, you create what medicine understands to be the most fearsome and awful pain a person can have. When inflammation from the disc eats through the covering on the spinal-cord pain pathways, it slows or interrupts the signals in the cord and creates the exaggerated reflexes, the nerve sensitivity, and terrible pain. Medicine calls it central or thalamic pain, and it usually comes from a stroke or a head injury that damages part of the brain called the thalamus, where pain is processed.

All of it finally made sense. The textbook said that thalamic pain was particularly bothersome, and patients usually used every single pain adjective to describe it. It was the only type of pain described as deep, sharp, dull, aching, burning, tingling, stabbing, and gnawing all at once. If a stroke patient gave their doctor these pain descriptors, it meant that they had thalamic pain and should be treated compassionately. When a fibromyalgia patient used

these pain descriptors, the doctors had been taught that it was a psychological problem since no one except thalamic stroke patients used these descriptors.

My research meant that there was a rational explanation for their pain, and that these patients weren't crazy. And it meant that two million people, or 28 percent of the six million fibromyalgia patients in the United States, could be helped, and many of them could be cured.

In January 2000, two months before the lecture in England, George finally told me that he had to move out of both the office and the home we shared. I couldn't blame him. This gentle helpful man needed peace and quiet to thrive, but the office was crazy busy and so was I, and the house was occupied by resentful teenagers who never saw their mom. They wanted their dad to move back from the coast and antagonized George as only teenagers can do. If he wanted the peace he needed, he was going to have to move someplace else.

I looked him in the eye and said, "I totally understand, but you can't move until June, after the lecture at the IFM symposium. I just can't handle it until then." He kindly agreed to stay until June, the patients continued, and the slides, travels, and lectures started in earnest.

Traveling to Anglo-European Chiropractic College in March taught me not to get a window seat on an overnight transatlantic flight, and it taught me that you can actually travel with a diet that is restricted to milk, yogurt, eggs, green beans, and lamb. The college had beautiful ancient stone buildings, and the meeting had a stellar speakers list, on which I was the new kid and the only woman. It was more than a little intimidating that two of my academic heroes were lecturing at that meeting. Scott Haldeman, a well-published chiropractor and medical doctor, lectured about the mechanics of spine trauma and pain. Leon Chaitow, a British osteopath and naturopath, a prolific and world-famous author, lectured about the effects of trauma on the fascia. I was too intimidated by his stern facade and bushy eyebrows to talk to him, but he turned out to be my mentor and dear friend a few years later when he pushed me to publish papers, book chapters, and eventually a textbook about FSM.

I watched their slide presentations from the audience and discovered that my slides were the wrong colors to show up well in the dark, historic stone-walled auditorium. I raced to an empty classroom and quickly changed the slide colors to blue with yellow letters and went on stage minutes later. The talk woke up the room. The model for fibromyalgia, how the disc injury and spinal cord pain pathway damage caused full-body pain, was completely new to everyone. The clinical results caused a stir. How was it possible that all twenty-five patients were out of pain at the end of ninety minutes? And how did 60 percent of them recover in four months? The buzz in the room and the comments from the doctors were electric with excitement. When I left

Portland, I had a feeling our treatment results were significant. When I left England, I knew they were.

But I also knew that no one in the medical community was going to believe the improvement in subjective pain scores, because the positive response could be a placebo effect. The pain could go down because the patients wanted it to, and no one would believe it was a real effect until some objective measure matched the subjective pain reduction. But no one I talked to had any idea what we could measure.

In April in Washington, DC, Jay Shah gently, diplomatically, and patiently helped tweak my slides to the standards of the NIH Grand Rounds audience. At the end of the lecture, I looked out at the audience of thirty people in white coats, pocket protectors and crossed arms, and asked for their help.

"You are the best scientists in the country. This treatment has worked on twenty-five patients with chronic incurable full-body pain and fibromyalgia. It is predictably effective, reproducible, and very specific. It only works on this kind of patient with this kind of pain from this causation. According to the most respected medical minds, what you have seen is impossible, and it has been done twenty-five times without a single failure. Will someone in this room please help us measure something objective that is changing so we can help these patients?"

A tall bearded kind-faced man with a British accent waited patiently for the crowd to thin after the lecture, and said, "If you get me a spot of blood on blotter paper, I can tell you what they had for breakfast. If anything is changing, we will be able to measure it."

Terry Phillips had developed the techniques of micro-immuno-chemistry that allowed him to measure the tiniest amounts of anything in the blood. He was new at NIH, so he didn't know that what he was about to do was against numerous NIH rules.

Terry sent special thick blotter paper and directions on how to use it. I called a former patient and asked her if she would come to be treated with something new, even if it meant that we had to prick her finger for a few drops of blood. Treatment failed in 1998 when we treated the muscles and nerves, but she loved that we tried so hard to help her, and she said yes immediately. Neck surgery on the injured disc didn't help, and now she had full-body pain and fibromyalgia. She came up to the clinic the next day. We set up the machine, took a blood sample before we started, and marked the blotter paper in pencil with her initials. The date was May 11 and the time was 10:50 a.m.

The 40 hertz on channel A and 10 hertz on channel B started running from her neck to feet, and within minutes her blink rate slowed down and she closed her eyes. The second blood sample was taken at 11:20 a.m., when she

said the leg pain was gone. The third sample was taken at 11:30 when her torso pain was gone. That's when she looked up at me with drowsy eyes and said, "Is this legal?" This protocol always made people floaty and sleepy at about this time during the treatment. It was almost as if they had been given a relaxing hypnotic drug. They could open their eyes and talk if they had to, but they preferred to float behind closed eyelids. I wondered what Terry's blood work would tell us about this effect.

We took the fourth sample at noon when her neck and arm pain went away and the body pain was zero. Next, I wanted to see what was changing when we ran what Harry Van Gelder had called the "concussion protocol." It always made such a difference in patient symptoms, but it was hard to know why, since it used the frequencies described as treating the brain stem and pituitary, and it produced profound changes in patients without diagnosed concussions. It would be nice to know what it was actually doing, so we ran it and took the final sample when the concussion protocol was finished. We did the same treatment and collected blood spots on May 14 and May 17 and sent them off to Terry at the NIH for analysis.

Terry must have worked around the clock, because the fax machine stopped me as I left the office on May 25 to catch a flight to Phoenix to speak at the IFM symposium. The numbers he sent were for chemicals called cytokines, which I didn't know much about, and there was no way to look them up on Google because it didn't exist yet. So I did the next best thing when I got to the hotel. I showed the measurements to biochemist Jeff Bland, the founder of the Institute for Functional Medicine, and watched his reaction. He looked down at the list and his hand started shaking.

He looked up at me and said, "You're going to knock their socks off tomorrow."

He looked at the list again and stopped when he found the endorphin results. Endorphins are what create the "runner's high" that people enjoy at about mile three. Her endorphin levels had increased more than ten times, from 5 to 69, after sixty minutes when the pain was zero and she asked if the treatment involved anything illegal. The endorphins were 88.3 after the concussion protocol at the end of treatment. The floaty feeling was real.

Jeff said, "Wow—you'd have to run a long way to get those endorphin levels."

"Jeff, how do I find out what the cytokine levels mean before tomorrow? They look good, but are these kinds of reductions easy and normal, or are they unusual?"

Looking at his watch, he said, "Call Michael Ruff in Candace Pert's office in Washington, DC. They wrote *The Molecules of Emotion* together,[3] and he's the U.S. medical expert on cytokines. He should still be in the office."

Michael Ruff answered the phone and was cordial but rushed when I explained that Bland had sent me and I wanted his opinion on the significance of some new cytokine data.

"OK; what are the numbers?"

Reading from the list, I said, "IL-1 [interleukin 1, a peptide that creates inflammation] went down from 392.8 down to 21.4."

His voice was quiet when he asked, "What time frame?"

When I answered "90 minutes," it was as if the line went dead. He was completely silent for thirty seconds.

"That's not possible," he said hoarsely. "Cytokines are hard to change, and when they change, they change slowly, if they change at all."

In my ignorance, I was enthusiastic, almost perky, when I said, "No, they aren't hard to change; they all change like that."

He whispered, "What do you mean?"

"IL-1 goes from 392.8 down to 21.4; IL-6 goes from 204.3 down to 15.6; IL-8 goes from 59.9 down to 4.8; TNF-alpha goes from 299.1 down to 20.6; interferon gamma goes from 97.2 down to 11.4.

"Inflammation keeps dropping throughout the treatment. The pain was 0 at the seventy-minute mark, and then we switched to a different protocol using frequencies described as treating parts of the brain. Serotonin levels dropped from 285 to 169 while the pain was going down, but what we call the 'concussion protocol' made serotonin go up from 169 to 295. Serotonin is the only value that changed direction when we switched to the concussion protocol. I'm not sure I understand it, but that's the data."

"That's not possible. Who did this analysis?"

Sample	Date	IL-1 0-25	IL-6 0-25	IL-8 0-25	TNF-α 0-25pg/ml	IFNγ 0-25	SP	CGRP	VIP	NY	β Endorph	Cortisol	Serotonin
MK1	5/11/00	392.8	204.3	59.9	299.1	97.2	132.6	100.8	8.5	18.1	5.2	15.5	285.6
MK2	5/11/00	288.5	200.8	47.6	265.7	99.8	127.5	97.6	10.2	13.7	7.1	12.6	309.2
MK3	5/11/00	103.2	121.7	21.3	96.5	73.7	82.4	61.3	32.9	7.2	21.4	33.7	202.1
MK4	5/11/00	52.6	33.9	11.4	43.4	32.6	38.2	22.4	48.4	5.1	69.1	78.3	169.5
MK5	5/11/00	21.4	15.6	4.8	20.6	11.4	10.5	8.6	69.9	6.6	88.3	169.9	289.6

Table 3.1. Terry Phillips analyzed five blood samples on our patient's first visit. The raw data is listed in this table. Not all of this data was published; some of it was just too complicated to explain in a journal article. IL-1 is interleukin 1, IL-6 is interleukin 6, IL-8 is interleukin 8, TNF-α is tumor necrosis factor alpha, IFNγ is interferon gamma. All of these small peptides are associated with increases in inflammation. These markers of inflammation are all elevated above the normal range by at least ten times. SP is substance P, which is produced in the spinal cord and is associated with increased pain. CGRP, calcitonin gene-related peptide, is made in the spinal cord and helps to transmit pain. When substance P and CGRP go down, it shows objectively that pain is going down. VIP is vasoactive intestinal peptide, produced in the brain and digestive system. VIP helps your heart beat normally, helps reduce blood pressure, and relaxes your stomach. Having VIP go up is a very good thing.

"Terry Phillips at the NIH."

He said, "Well, that's not it. He's the best in the world, and he does our data. I have to tell you, I have never heard of anything that changes cytokines like this. How did you do this?"

I explained about the list, and 40 hertz, and the spinal cord, and the pain going down, and patients recovering.

He replied, "I have no idea what you've done, but keep me posted when you write up the paper."

I stayed up late that night and made thirty-two slides with graphs to show the data as George slept. Jeff Bland must have said something to somebody because my workshop had to be moved four times the next day to larger and larger rooms, and at 3:30 there were 250 people in a room designed to hold 200. People were sitting on the floor along the sides and standing in the back.

I don't remember much of that sixty minutes, but I do remember starting with the clinical information on what was, by May 2000, forty-seven patients, including the determined December patient.

"The pain scores on forty-seven impossible pain patients with incurable fibromyalgia showed improvement at every visit. Pain at the beginning of the session averaged 7.4. Pain at the end of the hour-long treatment was an average of 1.4. The tender point scores on the December patient showed that they could recover in eight weeks when the frequencies kept the pain down. Digestion and sleep improved, medications were eliminated, and patients recovered."

How was this possible? How did frequencies change cell function and reduce pain?

- A. K., eighteen years fibromyalgia after an auto accident
- Fibromyalgia diagnosis was made when patient reported eleven of eighteen tender points, tender to less than four pounds per square inch pressure, chronic nonrestorative sleep, and full body pain.

Tender Point Scores with Treatment

- Numbers represent report of pain at four pounds per square inch pressure as measured with an algometer ("pain meter") pressure tester.
  - December 8: 14 of 18 tender points painful at or below 4 pounds
  - January 12: 11 of 18 tender points painful
  - February 8: 7 of 18 tender points painful
- Cervical Range of Motion: improved by 40%
- Pain medication: reduced by 95%
- Muscle relaxants: reduced by 95%
- Sleeping well; medication eliminated
- Acne and night vision: improved with oil-based vitamin A
- Digestion: improved; IBS resolved

The audience was challenged to remember that, according to the physics and chemistry we all studied, humans are electromagnetic beings that only appear solid. Our bodies are made of atoms and molecules. Molecules are made up of atoms that can be particles and waves at the same time. And there is more space between the particles than there are particles; on a quantum level, we are more space than we are matter.

All matter is held together by electrochemical bonds, and every bond resonates at a specific frequency. That's physics. Every cell membrane receptor has bonds that will only resonate to specific signals. That's biophysics. The signal from the key fob can unlock your car door as well as the physical key can. The signal from a frequency can change cell receptor function better than medication. This is a real rational model for how medicine based on resonance could work in clinical practice.

It's not magic. It's not a placebo effect. It's physics. It is the physics of resonance.

I had to watch the clock and talk fast so I had the twelve minutes I needed at the end to present the cytokine data slides that I added the night before. The

room was completely silent as I hammered through thirty-two slides at twenty-two seconds per slide. You could tell who in the room understood cytokines, because their mouths were open. At the end of the last twelve minutes, the room exploded, and I knew for sure we had something special.

That evening a bright charismatic man named Mike Curley from a nutritional company in Australia took George and me to dinner and offered to sponsor the FSM Core Seminar in Australia in 2001. They would pay my way and recruit the students from among their customers. He wanted this technology to help his customers help their patients. I said yes, and that started an adventure that lasted for seven years and a friendship that has lasted since then.

We fell into an exhausted, happy, and contented sleep at 11 p.m., and we slept until Wendy called at 3 a.m. to tell me that her brother had just wrecked her Volvo by driving it into the back of a parked pickup truck down the street at forty miles an hour while taking his friends home. Everyone was OK, but she seriously needed mom to come home. I made plane reservations and caught the 6 a.m. flight to Portland, had the car towed, made sure his three passengers were all OK, gave Wendy the keys to my car, picked up Adam, and flew back to Phoenix before 2 p.m. so I could finish the meeting and connect with potential practitioners and researchers.

The next day over lunch I looked across the table at George and asked, "Are we really going to split up?"

We glanced at Adam swimming in the pool, knowing that there was more teenage chaos to come. Everything got very quiet, and we both thought about the peace and quiet George needed to live his life, and we agreed, "Yes, I think that's best."

It was a resonant moment. Even when you know the path is not easy, when you say yes to what you know is right, that's resonance.

4.

That's Impossible

George moved out of the clinic and the house on the July Fourth weekend in 2000, and oddly enough life went on as usual. He moved into the top floor of a country farmhouse with one of our friends in a little rural community ninety minutes south of Portland. Eight years of companionship and habit left a lonely spot where he had been, but it was actually easier knowing that he was happier sitting on the porch surrounded by gently rolling hills and fruit orchards. Nightly conversations kept us in touch, and our friendship didn't suffer for the lack of proximity. He loved the FSM success stories from the clinic, and I loved hearing about his garden. Some things changed, but the basics remained connected.

After the "Energy Medicine in Clinical Practice" lecture at the IFM Symposium, people came up and asked, "If you can do this, why isn't FSM more widely known?"

I never knew how to answer that question. It's both hard to explain and difficult to accept a technique that involves a completely new treatment paradigm that produces such profound results so quickly, using current you can't feel and frequencies you can't hear. Natural skepticism takes over when results are "too good to be true." In reality, sometimes when it's too good to be true, it's still true.

Sixteen years in pharmaceutical sales taught me not to waste time trying to convince a skeptic about my products. The doctors who "got it" were receptive, and others weren't. I learned back then that spending time and emotional energy trying to convince those who enjoyed the superiority of skepticism was an exercise in futility, so I made it a habit not to try. They would get around to it when they were ready. Besides, I couldn't say I blamed the FSM skeptics. I spent years as one of them.

We did things in the clinic that even I found hard to believe. Nerve pain, muscle pain, diabetic wounds, liver disease, ulcerative colitis, asthma, and other conditions all improved or resolved so quickly when we used frequencies on them that it completely changed the idea of what was possible. When the frequency was correct, when it matched what was wrong with the patient, the tissue changes were immediate. The patient felt warm inside, the

graphite conductive glove felt hot on the skin, the muscles would soften, and a sense of relaxation would come over the patient and me. We did everything we could think of to eliminate any other imaginable cause for the improvements we saw.

Patients were treated in four different treatment rooms, at different times of the day, by multiple assistants and me; some had massages from the wonderful Russian massage therapist, and some didn't; some had chiropractic adjustments, and some didn't. Sometimes I chose the frequencies, and sometimes I didn't know what frequency was being used.

Most of our patients had failed with one or more types of treatment. Medical, chiropractic, acupuncture, and physical therapy were all on lists of the things that hadn't helped. They had been told they fell into the "impossible to fix" category, and it was either all in their head or they just had to learn to live with it. When these "impossible" patients were treated with FSM, the success rate was about 80 percent.

As a slightly skeptical, open-minded scientist type, I didn't want to believe what I was seeing. My doubt held out until the outcomes became overwhelming. Between 1997 and 2001 my small suburban clinic booked fifteen thousand patient treatments sessions on my schedule. One new patient and twelve return patients a day, five days a week meant seventy to ninety patient treatment sessions a week, fifty weeks a year. After four years the consistent results finally convinced me that the frequencies always do exactly what they are alleged to do. Always. The frequencies did, on a regular basis, what even I thought was impossible.

But the frequencies only do what they are described as doing. Treatments were effective only when the frequencies matched the condition that was causing the pain. By 2001 there were about two hundred FSM practitioners, and we all had the same experience. If we didn't understand what was really causing the problem, and the treatment was wrong, then the frequencies didn't resolve it, and the patient didn't improve. Once we all learned that the frequencies always worked, then we would change the frequencies until they matched what was causing the pain, and the familiar resonance response signaled success. The frequency response ended up teaching us to look for what was really causing the patient's problem because it was the only thing that worked.

This took years to sink in, and it eventually taught flexibility of mind and thoughtful reconsideration. The resonance response was so dramatic and so immediate that it helped disclose what the "right thing" was. Incorrect frequencies based on an erroneous understanding of the problem did no harm but didn't create success. You had to be willing be flexible and not get attached to your original idea. If you were willing to be still inside, shift your

perception, consider a different diagnosis, and move to a frequency protocol that correctly matched the cause of the symptoms, the patient improved almost immediately.

At the time, I wished the same knowing certainty worked in my personal life. Two teenagers, single mom, sole financial support, sixty hours a week, personally driven—I chose it, but I can't say I knew exactly what to do with it. Frequencies were easier because there was a list. We tend to use the same behavioral responses and make very similar choices for the same reasons whether they serve us well or not. It's easier to change a frequency than it is to change how you respond to stress or loneliness, but eventually you learn to ask, "Is this working for me?" If it isn't working, do something different. You know it's working when it feels right, when it works well, and when it resonates with your soul. I was still working on that part.

Eventually, I noticed that the sense of relaxation that happened when the frequency was correct was sometimes present when I looked at the list before I even used the frequency. It was a fleeting sensation that didn't happen if I thought too hard or wanted it too much. Relaxation, soft certainty, and knowing would arise in the internal quiet when I was willing to listen. Mind and emotions had to be quiet to hear the whisper of intuition. Someplace inside, intuition merged with information, and the synthesis ignited understanding and illuminated the solution.

For example, when leg pain is caused by nerve inflammation, it's called sciatica, and the pain goes from the butt to some part of the leg and foot that follows the nerves coming from the lower back. Treating nerve pain with frequencies is easy: 40 hertz on channel A reduces inflammation, and 396 hertz on channel B treats the nerve. The frequencies were written channel A/channel B in the chart. Remove the problem condition from the tissue causing the problem. Use 40 hertz/396 hertz to reduce the inflammation in the nerve, and nerve pain in the leg goes away. Sciatica, hard to treat medically, becomes easy to treat with microcurrent and resonance.

Leg pain caused by knots called trigger points in the hip muscles can go from the butt to the foot, but this pain has a slightly different pattern and doesn't respond to the frequencies that stop nerve pain. When the frequency for nerve pain didn't work, it took a while to learn that the nerve did not, therefore, cause the leg pain. Treating with frequencies for the muscle was the only frequency protocol that would take away pain caused by the muscle.

The facet joints, the posterior joints in the lower back, cause leg pain down the back of the leg to the knees that is often described as "sciatica" by people who don't know about referred facet-joint pain. The frequency treatment for nerve pain eliminates nerve pain 100 percent of the time, but it has no effect

on leg pain caused by the facet joint. Leg pain caused by the facet joints will only go away when you treat with the frequencies for facet joint tissues.

The resonance response taught this day by day and case by case with successes or failures in treating leg pain. The same was true for everything we treated. It was a long, humbling, and exhilarating learning curve that continues to this day.

The problem for all of us is that there is no place in anyone's paradigm that includes the concept that frequencies can change tissue function and structure quickly through the power of resonance. This underlying paradigm, or lack of it, affects our perception and belief in ways we don't ever think about.

We agree, as a culture, that pharmaceutical drugs can change cell function within hours or days. There is an unconscious consensus in our collective consciousness in which we, as a culture, understand as true that drugs can change how the body functions given enough time and the right drug. This consensus started thousands of years ago with herbs, and it was easily transferred over to pharmaceutical medications. We have the science of pharmacology that describes what drugs do and how they do it. We are all in agreement with this science, even though it says in the small print in the pharmacology books that the mechanism of action for most drugs is "unknown."

In general, we agree, as a culture, that certain nutrients affect cell function and body health. Everyone knows that vitamin C prevents scurvy and vitamin D prevents rickets. The role of nutrition in health is accepted by the general population as a given. Nutrients land on cell-membrane receptors, are taken into the cell, and modify cell function in much the same way as drugs. We don't think much about the mechanism of action, but pharmaceutical drugs and nutritional supplements are accepted without reservation as being able to affect health. Both involve a chemical model for "how the body works". Without anyone thinking about it, everyone has agreed on a chemical paradigm as a model for "how the body works". But chemicals are made up of electrical particles called atoms and molecules. Chemicals are electromagnetic in nature.

We don't yet have an idea, as a culture, that frequencies or electromagnetic signals can change cell function, cell structure, or health. Thanks to modern technology, we now accept, as a culture, that a key fob can open your car door lock with an electromagnetic signal. But we don't yet have an equivalent understanding that an electromagnetic signal on a specific frequency can change cell receptors, cell function, and health. Modern biophysics research has a pretty clear understanding of how the body responds to resonance, but this electromagnetic biophysics paradigm for how the body works is a model

that requires a little more time to percolate through society's collective consciousness.

The "impossible" cases you're going to read about in this chapter and the ones that follow will seem too good to be true, like magic, or maybe a huge placebo response. It's not placebo. It's not magic. It's physics. Remember, as you read this chapter, that if it happens, it's not really impossible.

RSD/CRPS: Complex Regional Pain Syndrome and Fibromyalgia

RSD qualifies as impossible to treat in the medical world. This dreaded condition was originally called reflex sympathetic dystrophy (RSD) because it had to do with the sympathetic (fight-or-flight) nervous system that makes your hands cold when you're nervous, and sometimes the patient's limbs became dystrophic, meaning withered. As far as I know, RSD has never had anything to do with reflexes. It is now called complex regional pain syndrome (CRPS), which makes even less sense, but it's what you can get a committee to agree on when you lock them in a room over the weekend and tell them they need to come up with a new name for a very complex nervous-system condition.

Shawna Hagerty had an auto accident in 1999 that smashed the front of her car, drove her knee into the firewall, and bruised the bone in her shin. The cast on her leg might have been too tight, but no one really knows why her leg pain went from achy to excruciating within weeks, or why it went from pink to purple and from warm to freezing cold. Something caused this injury to turn into RSD or CRPS in her left leg. On top of that, the neck trauma from the accident caused all of the body pain and sleep disturbance, digestive problems, and pain sensitivity of fibromyalgia.

Shawna's pain management doctor in Boise, Idaho, did all of the conventional things. He put her on opiates for the pain, did spinal injections, and implanted a spinal-cord stimulator. When he heard from another patient that we did something different in Portland and told her about it, she jumped at the chance to try it. When she arrived in Portland with RSD and fibromyalgia in March 2001, she had 9 out of 10 full-body pain, intense nerve pain in her left lower leg, and the left shin was ten degrees colder than the right.

The diagnosis was easy, and nothing was complicated from an FSM perspective. The FSM treatment protocols for RSD and fibromyalgia from spine trauma were, by then, new but fairly basic.

The physical exam was typical of RSD and fibromyalgia. Her left leg was numb and so hypersensitive that a sheet brushing against it was excruciating.

All eighteen body-wide fibromyalgia tender points were tender to less than two pounds pressure, so she couldn't be hugged or touched without intense pain. She didn't sleep well and woke up feeling more tired than when she went to bed. Digestion and short-term memory were both difficult. And somehow, with all of this, she was charming and friendly, stoic and determined, and within hours everyone in the clinic was rooting for her recovery.

She took up residence in treatment room two. We set up one machine to treat the fibromyalgia using 40 hertz and 10 hertz between her neck and feet. That went according to schedule, and she was drowsy and comfortable in the time we had come to expect based on Terry's NIH data.

A second machine was set up to treat the RSD with one graphite glove on her lower back and the other wrapped in a warm wet towel around her cold left foot. The frequencies to reduce inflammation in the nerves and the sympathetic fight-or-flight system reduced her pain and hypersensitivity in two hours. Then the frequencies to reconnect the sympathetics with the receptors warmed her leg and finished the process.

The quiet listening that led to informed intuition was a habit by then, and the frequency choices and decisions about when and how to change them would have been hard to describe. The tissue softening, the warmth, and the relaxation response suggested when it was time to change frequencies from reducing inflammation to increasing secretions, so the nerve would reconnect. It was an inspired accident, when treating the original bone bruise helped make the improvements more lasting. The treatment has become standardized over the years, but in 2001 it was a blend of intuition and observation. It took five hours, but Shawna was out of pain by 3 p.m. Monday when she climbed in her car to drive back to her parents' RV park.

She was treated three hours a day every day that week. Each day some of the pain returned, but each day it was less and in a smaller area. Each day she came into the clinic with a bigger smile and more spring in her step. The leg pain was gone and the temperature and sensation were normal at the end of Wednesday's three-hour treatment. The RSD was gone.

It sounds as if it was easy, but I held my breath the whole time. I can't pretend I took any of the results for granted. In four years there were enough failures and reversals to make me cautious about premature celebration. Shawna was terrified at first that she might fall back into the abyss of pain when any piece of it came back, but she adjusted quickly to being pain-free.

The body pain responded to the 40/10 protocol described in the previous chapter , and the fibromyalgia was gone by Friday. She went back to her parents' RV Friday night with instructions to swim and rest over the weekend and use whatever medication she needed to keep herself comfortable.

Shawna came into the clinic on Monday morning looking a little pale and tired but somehow triumphant. She announced that she was off of all of her opiate medication. She didn't have any pain so she refused to take it. She spent the weekend alone going through withdrawal—vomiting, sweating, sleepless, cold, and shivering in her RV. She didn't call me; she didn't go to the emergency room. Her husband talked her through it, and her own determination helped her survive it. It was not what I would have recommended, but I was incredibly proud of her and grateful because everything else we needed to do now became less complicated. We set to work, and ran the concussion protocol to help sooth her battered nervous system, and treated the spinal cord and the nerves again to make sure they were stable.

By Monday afternoon when she climbed in the car, the body and nerve pain were gone, and she had only two facet joints—those posterior spinal joints—on the right side of her lower back creating pain and local muscle spasm. There wasn't time for those joints to recover naturally. She needed skilled and special intervention. Roy Slack, the medical doctor who did our spinal injections, said he could work her in for facet-joint injections on Friday.

She came to the clinic every morning, went to physical therapy every afternoon, and swam in the warm RV-park pool every night that week. Her husband flew over from Idaho on Thursday to be with her for the Friday-morning injections. Anti-inflammatory steroids and nerve anesthetic injected into the joints snuffed out the long-term inflammation and reset the nerves. The injections were successful, and her lower back was no longer inflamed or painful by Friday night. The leg and body pain stayed gone even with the increased exercise and the stress of the injections.

On Monday, when she came into the clinic to say good-bye, exactly two weeks after she arrived, she was pain-free and fully recovered from two incurable conditions. She remains that way fifteen years later.

You have to understand that, from a medical perspective, Shawna's recovery was impossible. What happened could not have happened with any known treatment modality. But it did happen.

If you'd like to see what we did to reverse Shawna's RSD, you can watch a video that shows an RSD patient being treated and cured in 117 minutes. Put this YouTube link into your internet browser and see how it's done: https://www.youtube.com/watch?v=hdIGVjrZ6aQ . Shawna's treatment took longer because we didn't know as much in 2003 but the process was essentially the same then as it is now.[1]

If our success with Shawna was a main-course meal, then her friend Diane was dessert. Diane arrived one month after Shawna left. She had RSD and a spinal-cord stimulator and came from the same Boise pain specialist. She

desperately wanted the spinal cord stim unit removed. She was slender and athletic, and the stimulator-control box implanted under the skin in her lower right abdomen interfered with the way her clothes fit and changed the way she moved. It was uncomfortable, and she wanted it gone.

Diane arrived on a Wednesday morning and informed me as I was taking her history that she could only get three days off work to come over from Idaho for treatment. She expected us to be able to fix her in three days, instead of two weeks, since her case was simpler than Shawna's. She didn't have fibromyalgia; she just had pretty well entrenched RSD. And she wanted it and the spinal cord stim unit gone.

And we did exactly that. Treat the nerve with frequencies to reduce inflammation: 40/396. Treat the sympathetic nerves with the frequencies to reduce inflammation: 40/562. Once the nerve pain was gone, we drove the sympathetics and the nerves to reconnect with the receptors using the frequencies to increase nerve secretions: 81/396, 562. The RSD was gone in three days, and she had the stimulator removed a few months later. She remains pain-free to this day.

That was impossible. But honestly, at that point, it wasn't that hard.

Precision Microcurrent

In September 2000, I answered a phone call that was to change George's brief bucolic existence. Glen Smith, the talented, prickly, slightly eccentric engineer who built the Precision Microcurrent machine, was on the phone. We used his two-channel microcurrent machine in the clinic and in the FSM classes. Glen's vision when he built the Precision Microcurrent was to make an instrument that would help suffering patients. He wasn't just an exceptional innovative engineer; he wanted to help people by building an accurate, reliable microcurrent machine. He loved hearing the miracle stories George told him about our clinic successes.

He announced that he was going to retire. "I am either going to sell this company to you, or I am going to shut it down. I won't sell it to just anyone, and you and George are the only ones I can think of who would do right by my machine. I don't want much for it, and most of the cost is for the hundred machines I built for that guy who never picked them up or paid for them."

I said I would get back to him, and called George that night. George had a physics degree from Reed College, worked as an electrical engineer in the Navy, and built machines at Tektronix before he went to chiropractic college. He and Glen enjoyed an easy compatibility and comparable technical skills, so I could see why Glen wanted to pass his legacy on to George. At the time,

the Precision Micro was the only machine on the market suitable for FSM. If it went away, there would be no way to use or teach FSM, and the thought was chilling.

When I told George about Glen's story, I could hear him sigh, and imagined him looking around his peaceful orchard home during the brief pause, as he considered what the loss of the machine would mean to the "impossible" patients who needed help. George agreed to move to a small apartment in Glendale, California, for three months and learn how to build the machines from Glen. In January 2001, my dad, Gus Blase, became the owner of Precision Microcurrent, and George Douglas, doctor of chiropractic, became chief engineer. In April they moved Precision Microcurrent to a small industrial warehouse in Newberg, sixty minutes south of Portland and thirty minutes north of the orchard view from George's peaceful porch. Precision Microcurrent's safety meant that people could continue to use the frequencies to fulfill Glen's vision.

Figure 4.1. The Precision Microcurrent was a battery-operated, analogue, two-channel microcurrent machine invented in 1992 by Glen Smith. It could provide alternating or polarized direct current and accurate three-digit frequencies that could be set independently on each channel. The meter on the right showed how well the current was conducting. The unit could be used with leads connected to graphite gloves or to adhesive electrodes. It could also deliver shorts bursts of current to acupuncture points through probes. Glen created power-saving circuits that meant eight D-cell batteries would last two years with full-time use. It was an engineering marvel in its day.

Asthma

Asthma can't be cured; everyone knows that. It's impossible. You can treat the symptoms with medication that stops the spasm and reduces the frequency of episodes, but curing asthma is impossible. Ask anyone who has it or anyone who treats it. No one expects to cure it.

Asthma happens when the bronchi, the tubes that carry air from the mouth and nose to the lungs, overreact to something in the environment and go into spasm. It's like trying to drink from a straw that has collapsed. The spasmed bronchi can't carry enough air, and the amount of oxygen in the blood starts to drop. The brain reacts to the air hunger as if you're about to die by suffocation and releases fight-or-flight chemicals that are supposed to open the bronchi, speed up your heart, and make your muscles work harder to expand the chest and let in the air. The bronchi in asthma patients don't respond well to the chemical messages, and they stay collapsed and spasmed. The oxygen levels drop even more, and urgent messages tell every part of your system that you need air or you're going to die.

Asthma patients avoid the things that trigger the spasms; they always have their inhalers or medication with them, and sometimes when those don't work, they end up in the emergency room for stronger drugs that will help them breathe. Asthma patients know that asthma kills thousands of people a year, and most are aware that today might be their turn. It is exhausting and terrifying.

Chiropractors have known for a hundred years that adjusting the spine in the middle of the back where the nerves go out to the bronchi can help asthma. Kim was a regular lower-back patient, but one day she came for her appointment wheezing with asthma. I remembered the advice from school, adjusted her mid-back, and in minutes her breathing was easier; she didn't go to the emergency room that day. After that first time, any time Kim had an asthma attack, she stopped at the office on her way to the emergency room. Most of the time the spinal adjustments stopped the asthma, but when they didn't, she headed to the ER.

One spring day in 1998, the adjustment didn't stop the attack. When Kim struggled toward the door headed for the hospital, I asked her, "Can you stand waiting a few minutes while I try something new?"

Between wheezes she said, "OK, but hurry."

The frequency on the list for the bronchi is 64 hertz: sixty-four electrical pulses per second. And, before you ask, or even start to wonder, I have no idea how someone in 1922 decided that 64 hertz was the frequency that would resonate with the bronchi.

No one will ever know how the physician researchers of that era decided what frequencies went with what tissues or what conditions. All of the research and publications disappeared with that generation, when the AMA

threatened to revoke licenses if the physician used homeopathy, herbs, nutrition, or frequency-based electrotherapies.

We had the list from Harry Van Gelder's 1922 machine, and we had a small list from Albert Abrams, a medical doctor, found in a 1921 copy of *Electro-Medical Digest* in the NCNM rare book room. Educated in Vienna, Abrams was a successful brilliant clinician whose books lined the shelves of that room.

Channel A didn't require that much inspiration. We know inflammation is a problem because asthma patients in the ER are injected with steroids, and steroids reduce inflammation. The frequency on the list for reducing inflammation was 40 hertz, and so far it always worked, no matter what was inflamed.

The frequency on the list for spasm is 29 hertz. By then we knew that 29 hertz relaxed smooth muscle but didn't do much for skeletal muscle spasm. The smooth muscle in Kim's bronchi was clearly in spasm, so that was the next frequency to use on channel A.

We know asthma can be triggered by allergies, and some asthma drugs simply block the cells that release the allergy chemical called histamine. On the list for "allergy reaction" was 9 hertz, and it might have been used to neutralize histamine in 1922. It was worth a try.

PRECISION Micro™
A Frequency
Hz
Multiplier X
0 4 0
Volume
A Current (µA)
100
150
60
200
80
300
40
400
20
500
10
600
Off
A Output

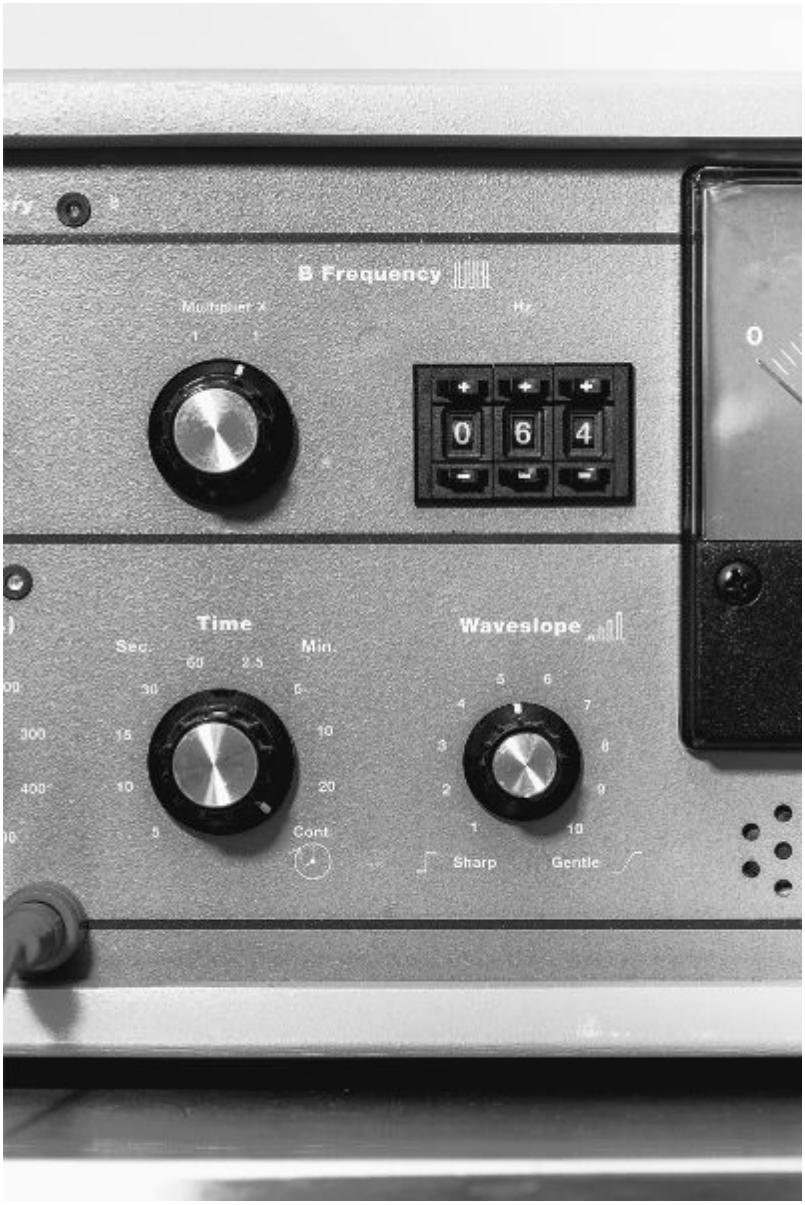

Figure 4.2. To treat asthma, the Precision Microcurrent, affectionately known as the blue box, was set to deliver 40 hertz on channel A to reduce inflammation and 64 hertz on channel B to address the bronchi.

It was the combination of the two frequencies on two channels that created the resonance response. The positive lead from channels A and B went into one glove, and the negative leads from channel A and B went into the other glove, so the frequencies from the two channels mixed in the two graphite gloves and crossed in the space between them. Both frequencies had to be correct to produce the desired response.

While Kim sat in the chair desperately and patiently wheezing, I grabbed a machine, put a thin film of water on the graphite gloves to help conduct the current, and helped her stuff them under the back and front of her shirt so the current would go through her chest. I turned the machine on and pressed the start button.

Something changed in seconds when we used 40 hertz combined with the frequency for the bronchi. Kim's breathing became easier, and her blink rate slowed down. She was still wheezing, but it was not so desperate or panicked.

She said, "This glove is warm. Did you heat it up?" And then her blink rate slowed down even more, and she stopped talking. After five or six minutes, the wheezing was almost gone.

The frequency for spasm stood out on the page, as if it was now in bolder print: 29 hertz on channel A and 64 hertz on channel B. In ten seconds the wheezing stopped. Kim still coughed a bit, but there was no wheezing at all. I had never treated asthma before, and we were both as surprised as we were relieved.

Figure 4.3. The frequencies from the two channels have to mix in the area to be treated. The graphite conducting gloves deliver the current and the frequencies. The positive leads from one channel plug into the jacks on one glove; the negative leads from the second channel plug into the other glove. With both channels connected to each glove, the frequencies mix automatically and delivered the desired effect to the tissue between the gloves.

There was a hard-to-describe sense of the treatment not being finished, and the frequency to reduce allergy reaction stood out on the page. Choosing which frequency to use is a combination of intellect and intuition. That allergy reaction is a problem in asthma is intellectual knowledge. The idea that "it's time to run the allergy reaction frequency now," and deciding "that frequency is finished doing what it can," seem to be both sensory and intuitive. There is a feeling that goes with it, a relaxation response in the patient and practitioner,

along with tissue softening in the patient, that goes with a correct frequency, that changes when the frequency has finished its work.

The resonance effect gives the feedback to tell you whether your intellect and intuition are correct. The feedback comes quickly. Allergy reaction, 9 hertz, stopped the coughing in seconds. This whole process took no more than twenty minutes.

Once her breathing was normal and she calmed down enough to realize that she wasn't going to die or go to the emergency room, she said, "What did you just do? What was that? What just happened?"

"I got this list of frequencies from Dr. George, and he got them from Harry's machine that was made in 1922. When we put them on the microcurrent machine they change symptoms."

"But you can't feel the current. How can it be doing anything?"

"The current is the same kind of current that your body produces on its own, so you can't feel it. We know that the current increases energy production in the cells by 500 percent, so the body must be able to use it directly somehow."[2]

"But how do the frequencies work?"

"I have no idea. There is a frequency for the bronchi and frequencies to reduce inflammation, spasm, and allergy reaction. Somehow they resonated with the cells and stopped your asthma attack with something like a radio signal."

Kim came in again a few weeks later, after her neighbor sprayed his roses with bug killer. Wheezing and struggling to breathe and on her way to the ER, she asked me to use the frequencies. Kim said, "This happens every time he sprays his roses for bugs. I hate that stuff."

Kim took the gloves, wet them, and stuffed them front and back on the skin under her bra. She pushed the buttons that set 64 hertz for the bronchi on channel B. There are three frequencies on the list to "remove toxicity": 57 hertz, 900 hertz, and 920 hertz. Since bug killer is a toxin, we set those frequencies on channel A. She relaxed immediately and her wheezing and gasping slowed.

Inflammation, spasm, and allergy reaction frequencies on channel A finished the treatment once the toxin frequencies were "finished." Kim didn't go to the ER that day, or any other day during the next five years. The frequency protocols never failed, and the episodes became less and less frequent until they stopped altogether.

Chronic Asthma

Just for the record, treating chronic asthma is equally impossible from a medical perspective and just a little more complicated in the FSM world, but so far treatment has never failed.

When my favorite assistant got married and moved to Park City, Utah, with her four teenage boys, she invited Adam and me to come visit after Christmas. Video games and snowshoes occupied the boys while Sharon and I caught up over tea. Sharon was treating her twenty-nine-year-old neighbor for chronic asthma, and progress had stalled. They could stop the attack at the time but couldn't get the frequency of attacks to change. There had to be something missing from the treatment, and we decided that between the two of us, we could figure it out. Like two missionaries we crunched through the snow to the house next door carrying the bulky blue Precision Micro.

The thin girl with translucent light-gray skin looked up with watery eyes and smiled as Sharon introduced us. I had never seen anyone with asthma like this. This wasn't a once-a-month attack like Kim. This exhausted girl with thin blond hair was in a constant state of air hunger, and wheezing was just how she breathed in and out, all day, every day.

Her color wasn't right. People normally have a light pink undertone to their skin, but her skin was a light dusky gray because there wasn't enough oxygen to make her pink. Her pale skin draped over a skeleton with no padding. Breathing like this takes so much energy that she couldn't eat enough to keep her weight normal, and the asthma drugs create a little nausea, so there just wasn't enough appetite to keep up.

She leaned back in the chair, and we set to work at the kitchen table. She put the moistened graphite gloves under her bra in front and in back like an experienced FSM patient; we turned on the machine and pushed the start button. Inflammation (40 hertz), allergy reaction (9 hertz), and spasm (29 hertz) on channel A and the frequency for the bronchi (64 hertz) on channel B eased the wheezing and coughing in the expected 20 minutes. But her breathing still rasped and rattled, and the occasional gurgling cough didn't go away with the usual frequencies. Sharon was right: something in the treatment was missing.

What was missing? Intellect asks: What is wrong with the bronchi? Why is her immune system so out of control? What frequencies from the list could correct these conditions? If the frequencies only do what they do, then the pathologies causing the rasping and rattling hadn't been removed. What conditions had been missed? I went down the list as my brain worked to recall everything I had learned in sixteen years calling on respiratory physicians as a pharmaceutical rep, and everything I had learned in school. Then I listened for the quiet voice.

The image of her battered bronchi appeared in my head, and finally there was a whisper of intuition about what to do.

It's chronic inflammation. The frequency for inflammation is 40 hertz, but 284 hertz is the frequency to remove chronic inflammation. After twelve years on disability for asthma, chronic inflammation made sense. But would it work? The suggestions of intuition were not infallible but always worth a try. Using 284 hertz quieted her breathing.

She relaxed in the chair and smiled when she said, "The glove just got really warm. I love it when that happens."

Her breathing still sounded slightly congested, with a hint of a gurgle. The frequency for congestion stood out on the page, and after a few minutes, 50 hertz on channel A eliminated the gurgle sound. It sounded as if the congestion was gone.

With the gurgling congestion gone, she happily reached for a deeper breath but started coughing almost immediately. What would stop a deep breath? If the bronchi were stiff from scar tissue, they couldn't expand to allow a deep breath. The mantra from pathology class came to mind: "Inflammation leads to chronic inflammation, fibrosis, and scarring." There were frequencies for all of those things on the list.

Fibrosis is a soft webby kind of scar tissue, and when Sharon changed the frequency to 51 hertz to remove "fibrosis," we asked the girl to try to take another deep breath. She cautiously inhaled, and we were all surprised when she didn't cough. After a few more breaths, each one deeper and easier than the last, the expansion stopped improving, and we knew it was time to change frequencies.

The frequency to remove "scar tissue," which is stiffer and more restrictive than fibrosis, is 13 hertz. Her face lit up with each deep breath. Scar tissue is short and tight, like a rubber band wound down on itself, held in place by crosslinks at the windings, and 13 hertz acts as if the frequency loosens cross-links and then simply dissolves them.

I had never used the frequency to remove scar tissue in asthma before, but if frequencies can release scarred muscles, they should be able to release the bronchi. And that is exactly what happened. As the scar tissue released, she could finally expand her chest fully, and the coughing stopped.

Her breathing was normal, but there was a sense of something missing that made me look back at the list. "Tubercular toxin," from the Abrams section of the list, stood out as if in bold print. Why would that catch my eye? She didn't have tuberculosis. She looked like the typical pale, thin tubercular patient, but no one in her family had tuberculosis, and neither did she.

It didn't make sense to use it, but it stood out on the page and kept my attention. I recognized the determined whisper of intuition and knew it would keep insisting until I tried it. This frequency changed her in a way I would never have expected. She said the glove was warm just before she fell asleep sitting up at the table.

After a few minutes she woke up breathing normally, giggled and said, "That feels good. It's warm inside."

In a single sixty-minute treatment, she could take a deep breath without coughing, her color changed from dusky gray to pink, and she was happy instead of exhausted. She wasn't normal yet, but she was much better. It's hard to describe the sense of awe and unreality that overtook us as we crunched across the snow back to Sharon's house. Acute asthma was one thing, but this was twelve years of pathology, suffering, and disability that changed in sixty minutes.

Sharon treated her once a week for another few months. In June, this girl, who hadn't been grocery shopping in twelve years, climbed on a plane and flew to Portland to take the FSM seminar. On half the medication, she was pink and fifteen pounds healthier, and she hadn't been in the emergency room in six months. She bought her own machine at the seminar so she could treat herself when Sharon moved to another state. If you ask anyone who knows anything about asthma, they'll tell you that her recovery was impossible.

Kidney Stone Pain

Everyone who has ever had a kidney stone will tell you that kidney-stone pain is the worst. Emergency rooms treat it with morphine, and nothing else seems to touch it.

The phone rang on a summer Sunday morning and I hardly recognized the friend who grunted through gritted teeth to ask if "my machine" could treat kidney-stone pain. I told him that I'd never treated it before, but I'd be willing to try if he could make it to my house. He shuffled from the front door to the couch bent forward at the waist, sweating in pain. I put one wet graphite glove under his back and the other glove on his abdomen. He tried hard not to moan as I covered him with a soft blanket and placed my hand on top of the glove on his abdomen.

Education said that kidney-stone pain had to be about spasm in the ureter, the tube that carries the stone from the kidney to the bladder. The frequency for spasm was 29 hertz on channel A. The frequency for the ureter was 60 hertz on channel B. It did absolutely nothing: no warmth, no relaxation or softening, nothing. Maybe there was bleeding caused by the rough stone

shredding the ureter as it traveled? I tried 18 hertz to stop bleeding on channel A. The glove didn't get warm, and the pain didn't change.

I really didn't want my gray-faced friend to be my first failure. Reaching for inspiration, I tried the always-reliable 40 hertz to reduce inflammation. Nothing changed. Desperation amplified the small murmur of intuition in my head, "Don't get sloppy! Be thorough."

There is a sequence of frequencies leading up to inflammation. The sequence was 20 hertz for "pressure or pain reaction," 30 hertz for irritation, 40 hertz for inflammation. I never ran the whole sequence because 40 hertz always worked and I had no idea what a "pressure or pain reaction" might be. The buttons clicked down from 40 hertz to 20 hertz on channel A, and two things happened in seconds. The glove resting on his abdomen got hot—not just warm, it was hot. His abdomen started to soften. The feeling is hard to describe. It feels like a balloon feels when it has been sitting on the floor overnight. The tissue softens and stays soft while the correct frequency is working, and it returns to normal when the frequency is finished.

His voice was a little slurred when he fell asleep a few minutes later as he said, "Is that supposed to make me feel woozy?" His deep relaxed breathing said he was out of pain.

There are frequencies for the stone, so I tried those after twenty quiet minutes of watching him doze. The glove got hot, the abdomen softened, and ten minutes later he bolted awake and yelped, "The stone's moving." True to its promise, 20 hertz on A and 60 hertz on B reduced the pain again and put him back to sleep. Forty minutes later he left, pain-free, and passed the stone that night with no increase in pain.

I told this story at the Advanced Course in Australia a few weeks later, and one of the Australian practitioners reported that she treated her husband for kidney stone pain with 20 hertz on A and 60 hertz on B. He was out of pain in an hour and passed the stone uneventfully.

Every case of kidney stones treated since then has responded exactly the same way. When the patient has gripping lower back pain from lifting suitcases during a long dehydrating flight but treating the muscles doesn't help, experience finally admits it's not the muscle. Intuition says, "I wonder if it's a kidney stone?" The learning curve is very steep and short when the glove gets hot, the muscles begin to relax, the pain goes down in minutes, and the patient falls asleep.

When one specific frequency combination, and only one, works every time anyone uses it, and when it does something that is otherwise impossible, then it can't be impossible. It's got to be resonance.

Shingles

With shingles, before there are blisters there is deep, aching, burning bothersome pain. My favorite pharmacist came home from vacation five days early, came straight from the airport to the office late on a Friday evening, and sat clutching his shoulder in the treatment room.

"I hurt my shoulder lifting suitcases out of the airplane overhead bin."

I loved treating shoulders. This would be a great way to finish the day, so I asked the normal history questions.

"How heavy were the suitcases?"

"Forty-five pounds."

"Don, you bench-press 150 pounds. How could a forty-five pound suitcase do this? Did it hurt at the time?"

"No. I woke up with it the next day, and it's been a 6 out of 10 ever since. I came home early. You've got to fix my shoulder."

This strong burly man was sweating and rocking in the chair as he gripped his upper arm. The shoulder exam was normal, and so was his shoulder. But the fifth cervical nerve, C5, which crosses the shoulder at the biceps, made him yelp when I stroked it gently with the little pinwheel that tests sensation for sharp. C4 wasn't normal either. This wasn't about his shoulder; it was about nerves. There was only one thing that did this to nerves.

"Don, you have shingles."

"I do not! There are no blisters."

"There won't be any blisters for about a week. This is called the prodrome; it's the pain that comes before the blisters. Let's treat it and see what happens."

As he lowered himself facedown onto the treatment table he asked, "How do you treat shingles?"

There is one frequency combination on the list for shingles: 230 hertz on channel A and 430 hertz on channel B. Unlike all of the other frequencies where A is a condition and B is a tissue, shingles is an A/B pair. It is the two frequencies together that create the resonance effect that had always worked for shingles. One contact was placed around his neck, where the nerve started, and the other was placed at the end of the painful C5 nerve, just above his elbow.

Figure 4.4. Treating the C5 nerve root for shingles. The positive leads from channel A and channel B are wrapped in the warm wet towel around the patient's neck where the nerve leaves the spine. The negative leads from channel A and channel B wrap around the upper arm where the nerve ends. The frequencies for shingles, 230 hertz on channel A and 430 hertz on channel B, do something to the virus that stops the pain and prevents the blisters from breaking out. If the blisters have already appeared, the frequencies stop the pain, and the blisters dry up and disappear within twenty-four to forty-eight hours.

The lights on the Glen's blue box began to twinkle, and in seconds Don's body began to relax. His breathing changed, his shoulders dropped, and in minutes he was softly snoring. He slept for two hours while I finished my paperwork for the day, and when he woke up, he was completely pain-free, and the sensitive nerve was normal. He used a loaner machine over the weekend; the pain never came back, and the blisters never broke out.

Shingles is in the "impossible" category because it is impossible to change shingles pain in two hours with any known treatment. Expensive antiviral medications take six weeks to help.

Nothing makes a shingles patient pain-free in two hours, but this frequency pair does exactly that. It doesn't work on anything else, and it works on shingles every single time. It doesn't treat the nerve pain you get after you've had shingles, postherpetic neuralgia. It just treats shingles.

The only real challenge with shingles is remembering to try this frequency when the history doesn't match the pain, when the patient woke up with it, and when nothing else makes sense.

Shingles isn't impossible. It's not even that hard.[3]

Crohn's

Putting Crohn's disease into remission permanently with twelve treatments in two months isn't possible, but it happened for the first time in 2003. Scott Bergman, a doctor of chiropractic, treated a fourteen-year-old patient who was headed for her third Crohn's hospitalization in two years. He treated her with the frequencies he had learned just three months before when he took the FSM Core Seminar.

Crohn's is a matter of the immune system attacking and inflaming some part of the intestines. In the functional medicine and natural medicine world, Crohn's patients are put on a hypoallergenic diet and certain supplements, and they eventually improve. In this case, she was already on all of the natural approaches for Crohn's, and they couldn't prevent the flare-ups or keep her out of the hospital. FSM treatment was fairly simple. Treat with frequencies that reduce inflammation and allergy reaction, and then the ones that "restore function" to the small intestine. At the end of each treatment the pain and bloating were gone, and she was hungry instead of anorexic.

She didn't go into the hospital that week, and she hasn't had an episode in thirteen years. She is a healthy, happy medical student this year. This has happened every time any FSM practitioner has treated a Crohn's patient. Maybe I just don't hear about the ones that don't work, but we know for sure that once it happens, even once, it's not impossible.

PTSD

FSM practitioner Barbara Harris, a medical doctor, developed the two-hour post–traumatic stress disorder (PTSD) protocol in 2005. It was effective and had no side effects and no failures, so it was included in the FSM Advanced Course in 2005 and 2006. It's now part of the Core Seminar. The protocol frequencies address the parts of the brain affected by PTSD, the sympathetic fight-or-flight system that is on constant overload, and it uses the frequencies to neutralize emotions like terror, fear, anger, resentment, and grief. In ten years, this protocol has no reported failures. The nightmares and flashbacks stop so quickly after the first two sessions that patients need time to adjust to their absence.

FSM practitioners are clinicians, not researchers, so they don't tend to publish data; they are content with patient recoveries. What data we have shows that PTSD scores go down by 30 to 50 percent, and patients recover after four to eight sessions, even when the PTSD is as much as seventeen years chronic. PTSD is not expected to improve with any treatment once it is two years chronic. Having PTSD disappear with any treatment once it is more than two years chronic is impossible. But it has come to be expected.

It’s not impossible if it happens. Especially when it happens every time.

These outcomes, all of them and many more, weren’t impossible. They weren’t even that hard once we learned what to do and how to do it.

It wasn’t placebo or magic. It is physics, biophysics, and resonance. And it isn’t impossible anymore.

It was a good thing, too, because the stakes were about to get much higher, and the learning curve was about to get very steep in an entirely new field.

5.

Believe What You See: High-Stakes Healing

Congenial negotiations for the FSM course in Australia proceeded and we scheduled the four-day midwinter Sydney course for August 23, 2001. The Australian course fees included machines, and George started modifying the Precision Micro so it would meet the stringent standards of the Australian Therapeutic Goods Administration (TGA). The TGA, much like our Food and Drug Administration (FDA), has absolute authority over all things medical. The course was delayed twice during months of tedious and demanding bureaucratic reengineering and was finally rescheduled for September 21.

After sending packets of plans and diagrams, it finally took a phone call to explain that the battery-operated machine did not plug in to the wall and was therefore exempt from a whole booklet of regulations. Safety standards still required a modification to a small circuit board before they approved eight machines for import some three weeks before our September 17 departure. September 11, 2001, changed everything, and the course was delayed yet again.

When my exuberant redheaded office manager and I finally flew on the first plane out of the United States to Sydney after 9/11, we were happy for the extra security and grateful to reach the clear blue skies of Australia. Mike Curley had outdone himself spreading the word about FSM and recruited sixty practitioners at $12,000 each to attend the four-day course that included the machine, catered lunches, and a gala end-of-course banquet.

I wasn't ready to put the course on slides, so my hand-drawn notes during the lecture were projected on a huge screen at the front of the ballroom. Managing twenty people with one assistant and five machines for the practicums at U.S. courses was a challenge; managing sixty exuberant Australian naturopaths at the Sydney course with no trained assistants and only eight machines eventually became a liberating exercise in the benefits of synergistic chaos. Somehow it worked.

The TGA cleared and certified the rest of the machines that week; George modified them and shipped them out in December. We flew over in January to make sure each one worked perfectly for its new owner.

After we delivered the machines in January, Mike Curley introduced us to Vivienne Reeve, a veterinary science researcher at the University of Sydney and a specialist in the study of inflammation and anti-inflammatory medications. Every prescription and nonprescription anti-inflammatory drug introduced into Australia in the previous eighteen years had to pass through one particular experiment in Reeve's lab. Mike Curley's innocent smile was mischievous as he asked if we would like to help design a study to test the anti-inflammatory effects of frequencies with this same experiment. The offer was a complete and very welcome surprise. I desperately wanted research that would confirm or deny what appeared in the clinic.

When the study was finished two years later, in 2003, it turned out to be groundbreaking animal research that demonstrated the incredible anti-inflammatory power of 40 hertz on channel A when it was combined with 116 hertz on channel B, the frequency for the immune system. The frequency was used on mice to reduce the swelling created when their ears were painted with inflammatory chemicals.

The first ten mice were painted, treated, and measured, and the results caused Vivienne to shut down the lab. The frequencies reduced swelling by 70 percent, and in eighteen years no drug or process had ever reduced the swelling by more than 45 percent. To eliminate any possible bias, she "blinded" everyone in the lab by moving them into separate rooms, turning the machine away from the person who was treating the mice, and inserting a placebo frequency into the trial. The swelling was still reduced by 62 percent in every animal tested in four minutes. Half the effect was there in two minutes, the full effect was there in four minutes, and additional time spent didn't improve the response. It was hard to believe what they were seeing.

She tested just nonspecific microcurrent alone with 0.1 hertz, and it had no effect on inflammation. She tested three other frequency combinations, and they had no effect on the swelling. She demonstrated that a single four-minute exposure to 40/116 changed the immune system permanently. You'll find the full study cited in the bibliography or on the website www.frequencyspecific.com . The data from this study wasn't published, for various reasons, but Vivienne's reputation makes it credible and reproducible. It remains the most profound demonstration of the resonance effect ever.

HealthWorld sponsored an FSM seminar every year until Mike Curley retired, and then for another two years with less corporate enthusiasm until we mutually agreed that their market had reached saturation. Our last course in 2007 meant a bittersweet farewell to my HealthWorld colleagues, my dear Australian friends, and an end to my twice-a-year trips to Australia. Dianna Cross, a soft-spoken and brilliant family physician, has made it her mission to hold annual meetings to support the Australian FSM practitioners, and Skype

has replaced the twenty-seven-hour journey. It's not the same as being there, but there is a piece of my heart that has never left.

The HealthWorld experience intrigued Jeff Katke, the president of Metagenics, and he offered to sponsor FSM seminars in the United States by promoting them with their supplement sales force and providing nationwide seminar logistics. All he asked in return was that the seminars now include specific mention of the supplement and lifestyle support we used that helped make FSM results permanent. The offer was too good to pass up, and 2003 changed my life forever.

By this time our early preceptor, Kristy Hughes, now a doctor of naturopathic medicine, had become one of Metagenics most popular and powerful health educators, and she began including FSM in her 2002 fall lecture tour. Jeff Bland, Metagenics chief science officer, did his annual eighteen-city lecture tour between January and March 2003, and the FSM exhibit booth was with me in the back of the room at each stop. We flew on Friday, Jeff made nutritional biochemistry a practical health-care tool for hundreds on Saturday, we flew again Saturday night, he enthralled a different rapt audience on Sunday, and we flew home Monday. I talked to people and treated people in the back of the room and somehow survived his schedule. Our companionable travels, his support for FSM, and my admiration for his message and passion created a lifelong friendship and a permanent place in the functional-medicine community for FSM, and a firm core of FSM practitioners trained to think about health in a functional-medicine framework.

I made seven hundred FSM seminar slides while sitting in the back of Jeff's lecture rooms and on planes during those three months for our first seminar in Portland in April. Each of the twelve seminars that year and the next were packed with thirty to forty physicians of all types—medical doctors sat next to chiropractors, doctors of naturopathic medicine, acupuncturists, and sports specialists.

Let me explain about Charles Poliquin. Charles is a world-famous trainer of elite body builders, weight lifters, and professional and Olympic athletes in every sport. He trains from the inside out and has rigorous exercise and nutritional protocols for his clients. He understands performance biochemistry better than anyone else in the world. I had no idea who he was when he walked up to my booth in 2002 at one of Kristi Hughes's workshops. He saw the cytokine data among the booth's graphics and knew better than I did that inflammation is the enemy of athletic conditioning and performance. Charles started spreading the word, and two sports medicine chiropractors signed up for the April FSM Core Seminar in Portland.

One of them was Keith Pyne, who was the chiropractor working with Bill Romanowski in the Oakland Raiders training room. Keith must have liked

what he heard because two weeks later Bill Romanowski was in the Portland clinic treatment room for the afternoon, and I learned how to treat "turf toe." I liked football but didn't follow it, so I failed to appreciate the ferocious reputation of this famous football celebrity. He was, to me, just a friendly, tall, incredibly athletic young man with an engaging grin who asked if I thought there was a frequency that could duplicate the feelings you had when you first fell in love.

The other one was Mike Hatrak, who turned out to be the Atlanta chiropractor working with Terrell Owens, the talented, mercurial NFL wide receiver and superstar who played for San Francisco.

The reports must have been good because one month later Charles called to sponsor an FSM sports seminar with "his guys" in May in Phoenix. Twenty Poliquin-trained sports therapists showed up for a two-day FSM sports intensive in Phoenix and learned how to use the frequencies to treat new injuries, reduce the pain from old injuries, and improve performance. The practicums were exuberant exercises in frequency-augmented manual therapy with some of the best therapists in the country. The endorphin response that makes pain patients sleepy made these strong healthy guys giddy and active. It was a productive and raucous weekend.

I had two phone calls a few weeks before the San Francisco Core Seminar. One call came from Buddy Primm, a private trainer with a small elite clientele, asking me to come to a hotel ballroom on Monday after the seminar to work on "his guys," who turned out to be most of the offensive line for the San Francisco 49ers. Mike Hatrak must have been generous with praise when he told Buddy what FSM could do. That was the first time I met Terrell Owens and Tony Parrish. The other call came from Keith Pyne, asking me to come to Oakland on Tuesday to work on Bill (I never learned to call him Romo) and the other players in the Oakland team training room.

Monday brought uneventful successes working on mountainous fit men with residual impairments from chronic injuries. Anything that improved performance was deeply appreciated and immediately useful to them.

On Tuesday the cab dropped me off at the Raider's cavernous facility. Keith hustled me inside while the players were finishing practice and we set up shop in the training room. That day taught us a lot about frequency specificity. Keith was working on a player with a hamstring-tendon injury from Sunday's game.

Figure 5.1. Charles Poliquin posing for neck treatment photos at the 2003 FSM Sports Seminar. Positive leads are in the towel behind his neck. Negative leads are in the towel on his chest. The frequencies from the two channels mix in the space between the two contacts and create the desired therapeutic effect.

"I can't get rid of it. I used 40/191 (inflammation in the tendon) for an hour yesterday and an hour today, and it's still sore. What am I missing?"

I reached down and felt a firm taut tendon that had no signs of inflammation. But pressing on the boggy bursa right under the tendon made the player twitch. Football players don't say ouch, so you have to watch the body response. The tendon wasn't painful; it was the bursa, the small gel cushion under the tendon, that made him jump. The frequency for the bursa was 195 hertz, only 4 hertz away from the frequency for the tendon. So 40/195 (reduce inflammation in the bursa) did away with the boggy tenderness in about fifteen minutes. Now we could feel our way past the bursa, down the tendon to the bone. The tendon weaves into the pain-sensitive lining of the bone, the periosteum, just below the knee. The pea-size tender swelling there said that the injury went beyond the tendon, and we switched the frequency to 40/783 (reduce inflammation in the periosteum). In thirty minutes we finished up the repair and learned exactly how specific the frequencies needed to be. Four hertz was such a small difference in frequency to create such a big difference in effect.

Figure 5.2. Exuberant practicum experience with Poliquin observing—an exercise in controlled therapeutic chaos.

The year flew by and full classes of enthusiastic Metagenics recruits came to seminars around the country. The FSM "old timers" from the previous five years of classes were tired of coming to the once-a-year Advanced Course and asked for an event where they could present case reports and learn from each other. The first FSM Symposium was scheduled for December 2003.

The practitioner case reports were, and continue to be, thrilling and the best part of FSM for me. Practitioners from every medical profession are helping patients recover using frequencies and the effects of resonance. They are doing things that I would never have thought possible. Naomi Kelly treated post-polio, Scott Bergman treated Crohn's, Maggie Coffman treated interstitial cystitis, Gary Griffin treated six cases of infertility, and Norri Collier saved a man's toes from being amputated by treating diabetic neuropathy.

There is a saying in medicine, "the plural of anecdote is not data." But in reality, anecdotes come first. Anecdotes are the success stories, the case reports that share what works. Once you know what works, then you can study it properly, try to eliminate the stray variables, collect data, and publish that.

Jim Oschman, the internationally known author of *Energy Medicine: The Scientific Basis,* was our keynote speaker. Jim's first introduction to FSM

happened in 2001 in a small Bethesda, Maryland, hotel room when he watched me working on Jay Shah's trigger points using frequencies on the old-fashioned blue box.

Stunned when he walked into the glittering Embassy Suites Ballroom, packed with 103 FSM practitioners, he looked at me and said, "Wow—what have you been doing?"

Jim has a genius talent for explaining the deepest physics behind what we see and can make wondrous what we take for granted every day. He explained resonance and how it works to the enthusiastic audience and then decided on a quick demonstration. He had everyone stand and begin to hum the classic meditation syllable, *om.* The room began to vibrate, and you could feel the energy shifting as the vibrations of the tone filled the space.

Jim suddenly grinned with inspiration and we quickly moved a Precision Micro to the middle aisle in the front of the room and turned it on. We handed one glove to the person on the left side of the aisle and the other glove to the person on the right side of the aisle, and he had everyone in the room hold hands. When the two sides joined hands at the last row, the flashing lights and the conductivity meter showed current and frequencies were flowing through all 103 people.

I tapped the buttons for the frequency combination described as "reducing emotional tension" (970/200) from the beginning of the concussion protocol. The data says this frequency raises serotonin levels, and it always makes people feel good. The resonance seemed to amplify the toning, and the air in the room became thick with a powerful energy that pulsed through to the bones. Wondering how we could make it better, we ran a frequency described as "restoring joy," 970/33 ("to support the emotional component of the heart"), and the room could hardly contain the surge of energy that made everyone feel like giggling. Jim left the stage to thunderous applause and the first FSM Symposium ended with a blissful exit.

I moved across the river to a house in Vancouver, Washington, over New Years and left the twenty-year-old Adam and his friends to rent the house in Portland. The February Advanced Course went smoothly in Phoenix and I finally had a wonderful leisurely weekend off in early March. After treating myself to a movie and a quick grocery store run before heading back to Vancouver, I was surprised when I felt a rush of warmth in my chest as I lifted the bag of groceries into the back of the car. I called George as the warmth turned to tightness, and he stayed on the phone as the tightness turned into crushing pressure and then breathless pain.

He pleaded with me, "Turn off at the hospital at the next exit in Portland."

"I just want to get home. I'm not about to go to the area trauma center in the worst part of Portland on a Saturday night and compete with gunshot

wounds for bed space and attention. I am not that desperate."

I made it as far as my Vancouver exit, gave up gasping with the crushing chest pain, and pulled over on the main road two blocks from my house. Nitroglycerin in the ambulance made the pain go away and the full-to-capacity status of Vancouver hospitals meant I was spending the night at my favorite Adventist hospital in Portland. My EKG was normal—no heart attack—and they released me in the morning with orders to come back Monday for a scan and a stress test.

I flunked the stress test ten seconds after the drug wore off that makes your heart race for exactly four minutes. The tall, slender cardiologist focused attentively as my body arched and I spat out the shocking unfamiliar expletive. We both looked over quickly at the huge spikes in the wrong place on the EKG strip. Groans and bad language followed in the few seconds it took her to put nitroglycerin on my chest, in my mouth, and in my IV. Once the pain was gone, she explained that I would be having an angiogram to look at the arteries in my heart.

She was surprised when I argued, "Like fun I am. I have no risk factors at all. I had a completely normal full cardiac workup by an internist friend last week in Bethesda. I used to work in hospitals when I sold cardiac medication, a beta-blocker called Inderal. What are the chances you're going to kill me in the cardiac cath lab when you do the angiogram?"

She looked stunned but answered frankly, "Oh, you know about that?"

"Yes, I know. What are the odds?"

"One in one thousand angiograms are fatal. But I've never lost anyone."

"Then either you're really good, or it might just be your turn. Chiropractors wouldn't do very well if we had odds like that."

She laughed and we both relaxed. I agreed to the angiogram because she was obviously right. It showed every artery was perfectly clear except for a 98 percent blockage of the main artery feeding the left side of my heart. This particular blockage is accurately called the widow-maker because it causes 85 percent of first-time fatal heart attacks. They placed a stent to open the artery later that afternoon. Adam and Wendy met me at the hospital, and Adam must have called George, who surprised me by showing up just in time to hold my hand as they wheeled me in for the procedure. George decided I shouldn't be alone when I went home and stayed for a week as I recovered. Our friendship went back to its former companionable intimacy starting then.

Prior to the stent I traveled on the weekends and saw a full schedule of complicated difficult pain patients every day until the next flight to a distant seminar or meeting, and then started back seeing patients again as soon as I came home. After the stent, I slowed down my schedule, learned to sleep in

now and then, passed my easier patients over to the clinic associates, worked fewer hours, and went back to teaching seminars. My happy heart behaved itself, and life returned to normal until I answered the clinic phone on Monday morning, December 20, 2004.

Buddy Primm sounded somber when he said, "Terrell has been hurt. He's playing for Philadelphia now, and yesterday he fractured his leg and tore up the ligaments in his ankle. We used his FSM unit on it last night and he's having surgery tomorrow morning. He wants to play in the Super Bowl in six weeks. Mike Hatrak, his chiropractor from Atlanta, said we had to call you. He says if it's possible to fix it in time, you'll have to be the one to use FSM to do it."

I held my breath as I did the math and figured the odds in my head. If the right frequencies are used on a new injury within four hours of the accident, the results are almost miraculous. Fractures, surgical events, and auto-accident injuries heal in three weeks, not six, if they're treated within the four-hour window. It would be close, but if everything went just right, we might be able to pull it off.

"I think we can do it, but I need to be there when he gets out of surgery."

They made the arrangements, and I canceled patients for the next few weeks and climbed on the red-eye so I could arrive in Philadelphia immediately after the surgery. Buddy met me in the hospital waiting room and described the surgery that pinned the lower leg bones together because the thick band of connective tissue normally doing that job was shredded. The ligaments on the outside of the ankle were torn away from the bone. They didn't worry about the open spiral fracture in the small outer leg bone, the fibula, because it didn't bear weight; it was "just" an anchor for muscles.

Terrell came out of recovery smiling and waving to the nurses as the wheelchair took him to the stretch limo that would take us back to his house. I attached the adhesive electrodes next to his knee above the protective boot and on his toes that peeked out from under the gauze at the end of the boot. When he had settled down on the long limo bench, I started treating him on the way home. Six weeks didn't give us much time.

He crutched his way across the snow into the house, and Buddy stayed until Terrell fell asleep on the long couch in the family room. I reattached the pads and sat next to his foot, treating him all day. After dinner he slept on the couch and I slept sitting up at his feet, changing frequencies every time I woke up, all through the night.

There are frequencies to stop bleeding, repair the impact of trauma, and reduce inflammation, and frequencies for each of the dozens of damaged tissues between his knee and his toes. And he needed all of them. There was perhaps some intuition involved about when to change frequencies, but in

truth, the treatment protocol was a pretty well established rubric after six years. It was just a matter of having the stamina to run it for twenty-four hours straight. And it was a matter of the tissue being healthy enough to respond when frequencies and current drove it to change for the better.

The next morning, Rick Burkholder, the team trainer, showed up to check on his six-million-dollar wide receiver.

Rick's face was grim as he said, "OK, let's see it." He was expecting the black-and-blue swollen ugliness you normally expect to see the day after this kind of surgery.

We opened up the protective boot, unwrapped the bandage, and we all did a long double take because of what we didn't see. There was no bruising at all. There was no swelling at all.

After a stunned minute of complete silence, Rick Burkholder quietly asked the smart question. "How do I take advantage of what you can do?"

"You're going to have to believe what you see, not what you expect to see. I've treated new injuries before, but I have never done anything like this."

We set to work that day and treated for another twenty-four hours straight. Terrell drank water, slept, and ate only salmon, rice, broccoli, and the anti-inflammatory foods it takes to keep you fit. Buddy's clients were allowed no wheat or potatoes and had beef only once a week. Terrell's agent got me on a plane home in time for Christmas Eve, and the holiday dinner was full of laughter and great stories.

The day after Christmas found Terrell running on the treadmill in three feet of warm water in the training room pool under Burkholder's watchful eye, with a plastic bag keeping his leg dry. Playing in the Super Bowl meant he not only had to heal—he had to be fit enough to play as if he had never been hurt.

I was back the next week for more of the same and arrived from the airport around noon to find him and his girlfriend having a snowball fight in the front yard. He was scampering around in sneakers. Weight-bearing, six days after a career-ending surgery, smiling a happy toothy smile. "Dr. Carol! You're back. Let's go to work!"

Treating Terrell was a team effort. He started sleeping in the hyperbaric chamber in the living room during the second week. He was treated six days out of seven, and I was usually there for five of them. The FSM technicians came up from Mike Hatrak's Atlanta office for half the week, and there was somebody treating him six hours a day. Terrell put everyone up in guest rooms at his house and took care of airline tickets, food, and wages. He desperately wanted to play in the Super Bowl. His posse of supportive longtime friends joined him for lighthearted banter, video games, and movies, just like any normal group of thirty-two-year-olds.

During week three, the Eagles won the division championships, and I had a brief glimpse of his intense public life as he and his bodyguard formed the wedge that protected his girlfriend and me from the crush of fans on our way back to the car after the game. For the next few days we worked at the training facility under Burkholder's watchful eye. Now we knew for sure he needed to be Super Bowl ready.

Figure 5.3. A view from the stands when the Eagles won the division championship. There was celebration, confetti—and the next stop was the Super Bowl.

By the beginning of week four we could start softening up the repair tissue, but the frequencies that dissolve scar tissue absolutely could not be used until the week before the Super Bowl. If we took out too much scar tissue, there was no time to put it back. We had no time for any mistakes.

The surgeon was telling everyone with a microphone or a pen that this injury would take eighteen weeks to heal, and was probably career-ending, and Terrell was being reckless. It made good copy, and the press ate it up. The surgeon wouldn't clear Terrell to train. Burkholder had a different strategy, and when X-rays showed the healed fracture and video imaging showed the ligaments were stable at the end of week four, the team doctor released Terrell

to train. I stayed home the next week and waited to fly to Jacksonville for the Super Bowl.

Terrell arrived in Jacksonville on Tuesday and couldn't run. His lower leg muscles spasmed after he ran twenty yards, and everyone got nervous. When I arrived on Wednesday, I went straight to the facility from the airport. Working in the cold concrete bowels of the stadium, his massage therapist Brian Glotsbach and I finally started to work on dissolving the troublesome scar tissue. Muscles scarred down to nerve and bone won't fire properly and they spasm when you ask them to work. It was time to finish this by releasing the scar tissue that had helped to repair it.

The frequencies 58 hertz and 13 hertz dissolve scar tissue so efficiently that they normally can't be used until six weeks after an injury, and we were at five and a half weeks. We were pushing the timing yet once again. I picked the frequencies and decided which tissue to treat, but we needed Brian's strong relentless fingers to work on the lower leg muscles. We did months of scar revision in three hours. Terrell stayed focused on his goal and never flinched as we took apart the layers of muscles in his lower leg. Literally. Muscles have to glide for quick movement, and we had to take apart the scar tissue that stopped the glide. We worked another two hours on Thursday and it was done. Mike Hatrak came up from Atlanta and displayed cool-headed and astounding expertise as he adjusted Terrell's ankle with a resounding crack.

Friday, Terrell ran as if he had never been hurt. Sunday he caught passes, ran 157 yards, and made three touchdowns. The Eagles lost that game or perhaps the role of FSM in Terrell's recovery might have made the papers. The team made a deliberate effort to keep Terrell's therapies a secret, so very few people knew how he actually recovered. And perhaps because they lost, no one remembered to say "thank you" to Terrell for his heroic investment in his own recovery. His youthful hurt feelings spilled out angrily in the press, and he was traded to Dallas. It didn't ever seem fair to me, but that seems to be life in the big leagues.

Terrell Owens ended up being one of what has turned out to be a long list of recovery stories from almost every professional sport. After 2004 my practice had two arms: elite professional athletes and chronic pain patients. Players flew out and teams bought the clinic for the day so we had focus and privacy. A football player is so healthy and fit that he can tolerate six hours of treatment in a day, creating changes that couldn't be accomplished with several months' worth of manual therapy and training. The work took all of my focus and attention for the day and privacy was a required part of healing for celebrity players. It made for a very nice balance.

Treating athletes presented challenges and learning opportunities that benefitted not only the athletes being treated but also every student and patient

who came after them.

Consider the "torn" chest muscle that wasn't torn. The Eagles sent a player to be treated for last year's hamstring injury and asked if I could do anything about the pectoral chest muscle he tore while bench-pressing 250 pounds the previous year. This offensive lineman weighed 260 pounds with only 16 percent body fat. If you have a visual of a glossy black refrigerator with sinew and arms, it will be close to what laid down on the treatment table. Just to make conversation, I asked him what he did in college, expecting the customary "business major" reply. His answer cured me permanently of making assumptions based on physical appearance. He said, "I'm a civil and structural engineer, and my company builds freeway overpasses." His tiny elegant wife looked like a cheerleader but ended up being an architectural engineer. The lesson for that day was, believe what you see but don't make assumptions about what you see.

The hamstring was pretty easy, so we turned to his chest after a few hours. His well-defined pectoral muscles were impressive. When he pressed his hands together in front and flexed his chest muscles, the right one was roundly smooth and the size of a large country ham. The left one contorted into a bunchy figure eight looking more like a thick Möbius strip than a ham. Everyone who saw the injury saw the torn muscle they expected to see. But the edges of the muscle still connected to the bones in the right places, so it wasn't actually torn. What if it just bled and scarred inside itself? Believe what you see. The muscle wasn't torn, it was scarred.

The contacts were placed under his back, and the graphite glove was wrapped in a warm wet hand towel covering his chest. The frequencies that dissolve scar tissue ran for thirty minutes, and my fingers separated the short, tight fibers as the frequencies vibrated and softened the cross-linked bonds. Frequencies to remove scarring (13 hertz) in the muscle (62 hertz), the fascia (142 hertz), the nerves (396 hertz), and connective tissue (77 hertz) produced the expected results. When we finished treating and removed the towel, he flexed his chest muscles, and they both looked like huge, smooth, strong, symmetrical country hams. You could see the finger-tip-size divot from the original tear in the left pectoral muscle. The Möbius defect was caused by bleeding and scarring.

Consider the twenty-six-year-old lithe, muscled Australian woman who made her living running marathons. Three hamstring injuries in fourteen months put her out of work. Her frustrated trainer and one of our students brought her to the September 2005 FSM course on the Gold Coast hoping we could repair the weak gluteus maximus muscle causing the hamstring injuries. They explained how it works. The "glute max" is the large butt muscle whose job it is to extend your hip and allow you to point your toe out behind you

with your leg straight. If the glute is weak, the hamstrings—those muscles running down the back of your leg—will try to help out, and they get injured because they're not designed to do the job. They're too weak, and they don't have good mechanical advantage.

Even after months of hard work and conditioning, the trainer could demonstrate the glute max weakness. Laying on her stomach, his runner lifted each leg with the knee bent. He pushed full-strength on her left leg and couldn't budge it. Her right leg gave way with half the effort. The glute had to be strong or the next hamstring injury might not be so easily repaired as the last three.

The room was very still as the history and physical exam collided in my head. It didn't make sense.

"Does it make any sense to you that a woman who makes her living running marathons would suddenly go weak in one of the strongest muscles in the body? That doesn't make sense, does it?"

The puzzled looks around me said that no one in the room had thought to ask that question. Flickers of synthesis connecting scar tissue lessons from Terrell's lower leg flashed in front of me. Muscles won't fire when they are scarred down to nerves. Maybe muscles wouldn't fire if they would pull on a scarred-down nerve? These two trainers were very good at their jobs. If all of their work on the glute didn't help, then maybe it wasn't the glute.

Ignoring protests that the glute was the problem, I rolled her over onto her back and checked the front of her thigh, where the big fan of nerves runs down between layers of muscle. And there it was. It was her groin and thigh muscles. The tight and tender adductor muscles at the top of her thigh flinched under light pressure.

"When did you have your groin injury?"

The groin injury was not part of the history, so she was a little surprised at the question.

"Oh, it was just a little pull about eighteen months ago. Why?"

"Your glute isn't weak. Your brain has turned it off to keep you from pulling on this muscle in the front that is stuck to the nerve. That is the theory, now let's test it by treating it."

Treating nerves and scarring with frequencies is as easy in athletes as it is in pain patients. Set up the contacts on the lower back where the nerve starts and at the knee where the nerve bundle ends. Reduce inflammation with 40 hertz on channel A and treat the nerve by using 396 hertz on channel B. Those frequencies made everything less tender but didn't change the tightness. Dissolve the scar tissue between the nerve and the fascia using 13 hertz for scarring, 396 hertz for the nerve, and 142 hertz for the fascia while using a

soft touch to gently separate the fibers. The tightness melted as the scarred cross-linked bonds dissolved. After twenty minutes, it was done.

Now we had to check. Did that change the glute strength? She rolled on to her stomach and both glute muscles were 100 percent strong. Her coach looked surprised with sudden understanding. The glute was never weak; it was inhibited. The brain turned the muscle down to half strength to protect the scarred nerve in the front that would have been injured if the glute had powerfully extended the hip backward. It was perfectly logical from the brain's perspective. The treatment proved the theory. The glute was restored; the hamstrings were safe. She went back to work.

Believe what you see, not what you expect to see. The expected problem was not the problem. When the normal solutions don't work, you have to look for the unexpected, and then believe what you see.

When Milos Sarcev tore his thigh muscle away from his knee doing a squat with seven hundred pounds on his shoulders, they surgically reattached the muscle, and he spent one year strengthening it. The well-defined muscle was strong except for one five-inch section close to the knee that was atrophied flat and wouldn't contract. Charles Poliquin brought his friend and client for treatment on Friday night at the Los Angeles seminar.

First, I treated what I expected to see. I treated scarring in the muscle, nerve, and bone between the lower back and the knee from the massive injury and surgery. Nothing changed.

Believe what you see.

Look and think again. I saw a muscle atrophied flat. Why was it flat? Why wouldn't it contract? Nerves make muscles contract. Maybe the nerve was injured when the muscle tore? Injured nerves are inflamed and there was a frequency for that. I treated inflammation (40 hertz) in the nerve (396 hertz), and the flat muscle popped up. We all cheered as Milos happily contracted it twice, and we all moaned when it went flat again. Treated again, it popped up again. He contracted it twice and it went flat again.

Look again and think again. How do nerves make muscles contract? A nerve secretes a chemical, acetylcholine, that stimulates the receptors that make the muscle contract. Reducing inflammation created enough nerve health to allow two contractions. The two muscle contractions used up the chemicals. There was a frequency for increasing secretions that could be used in combination with the frequency for the nerve. Even though I had never used that combination before, it was worth a try. Using 40 hertz made the muscle pop up again, and 81 hertz to "increase secretions" in the nerve made it permanent. We used that combination for about ten minutes, and it was done. The muscle never went flat again. It was then up to Charles and Milos to finish strengthening it.

Believe what you see, not what you expect to see.

When I went to Fort Bragg and joined one of our practitioners in her clinic on the base, we treated soldiers with the normal pain complaints you expect from people who have very physical, very demanding jobs. You expect tight muscles, joint pain, and nerve injuries, and it wouldn't be unreasonable to see someone with a disc injury and inflammation in the spinal cord causing muscle tightness and pain.

The captain asked us to treat her chronic lower-back pain. When I felt the tight muscles on the right side of her spine from skull to waist, I thought it had to be caused by inflammation in the spinal cord. Spinal cord inflammation caused pain and muscle tightness for fibromyalgia patients, so I confidently set the frequencies for 40 hertz to reduce inflammation on channel A, and 10 hertz to address the spinal cord on channel B. I pressed the start button and waited for the predictable response. It didn't happen.

Using 40 hertz and 10 hertz made the muscles tighter and made the pain worse. It was disorienting, as if the sun had come up in the west. After thousands of patient visits, I was used to the unexpected, but this was a complete surprise. I stopped the treatment and wrenched my brain away from the expected response to the actual response. The spinal cord had to be the correct tissue because it was the only thing that would affect muscles running from the skull to the waist. But what was wrong with the spinal cord? If it wasn't inflammation, what was it? What would reverse the tightness?

I asked her how long her back muscles had been tight.

"They've been tight ever since I fell off the monkey bars in high school and landed on the back of my head."

Memories from neurology class floated into consciousness as she described the impact to the back of her head. All of us have constant signals coming from the brain down the spinal cord telling the muscles not to spasm. The medical term is descending inhibition of spasm. It is what is missing in someone with cerebral palsy and it causes the spasticity you see in cerebral palsy. The body-wide spasticity comes from loss of descending inhibition caused by brain injury at birth.

What if the monkey-bar injury produced a small local brain injury that just reduced the "don't spasm" signals? If we could increase secretions in the nerve to reverse Milos's atrophied muscle, perhaps we could increase secretions in the spinal cord and the brain to reverse the spasm caused by the loss of descending inhibition from the brain to the spinal cord to the muscles. It was worth a try.

I set 81 hertz on channel A to "increase secretions" and 10 hertz on channel B to target the "spinal cord," and the muscles along her spine started to relax

from the waist upward. Her body relaxed, and when we changed the channel B frequency to 84 hertz, the frequency for the hindbrain injured in the fall, she fell asleep. In thirty minutes, the muscles were relaxed, her back pain was gone, and the frequency response gave us an important tool. Loss of descending inhibition is a big problem in transverse myelitis (spinal cord damage cause by spinal cord infections), and it's a big problem in spinal cord damage, called myelopathy, caused by disc herniation in the neck. And we had just stumbled on a solution. Ten years later 81/10 was being used on cerebral palsy patients at Cleveland Clinic Children's Hospital Rehabilitation Center and spinal-cord injury patients all over the world.

When you don't see what you expect to see, believe what you see—and learn from it.

That's sometimes easier to do with a muscle than it is with your life. I was always healthy, fit, and energetic when I was on the road doing seminars, lecturing, or listening at medical meetings and treating athletes in team training facilities. The fatigue I felt after the rain-soaked 1998 remodel always returned when I went home to the clinic, and it was getting worse. In the spring of 2005, when we were trying to rewrite the fibromyalgia and cytokine paper for our fourth attempt at publication, I couldn't read it. I could see the words on the page, but by the time I finished a sentence, the words disappeared from memory and I had to start over. I shrugged it off and blamed it on jet lag or fatigue. Then the next night, I was treating my last patient of the day at 7 p.m. and found that I couldn't read her chart notes from the previous week. I could see my handwritten words on the page but I couldn't turn them into sentences in my head. I worked hard to hide my exhaustion and slurred speech, relied on instinct and experience, treated her as well as I could without last week's notes, and got her out the door.

Believe what you see. My beautiful clinic, remodeled in the wet cold winter of 1998, was making me sick. I went space shopping, moved our clinic the next month into a new space, and paid the mediated fine for breaking my lease. After surviving the widow-maker stent, I wasn't about to collapse in a building sick with black mold. The fatigue and brain fog disappeared and I was able to write again. The lower back pain paper was published that year. The cytokine paper was finally accepted for publication. And a chance encounter at a pain meeting led to the FSM seminar being offered by John Sharkey's National Training Center (NTC) in Dublin, Ireland, in the fall.

Teaching in Dublin meant a long flight, three days of adjustment to the time change, and teaching a course to intense, well-trained, and talented manual therapists. NTC is a well-organized, well-run private college for neuromuscular therapists. Expressive Irish faces went wide-eyed with surprise in that first class as they felt hardened muscle tissue simply melt with certain

specific frequencies. On day three one student exclaimed, “I came to learn a new therapy. I didn’t expect to find out that everything I thought I knew about muscles isn’t true.” After that first course, one of the NTC tutors took over the teaching so I didn’t have to travel. Denise Curtis has created more than one hundred enthusiastic and talented Irish FSM therapists at NTC and with their help published the first FSM placebo-controlled trial. The study showed that specific frequencies used for twenty minutes immediately after intense exercise could prevent delayed-onset muscle soreness. In all of sports medicine, no medication or therapy, not even nonspecific microcurrent, prevents or treats delayed-onset muscle soreness. This was a huge advance for athletes, trainers, and body builders.[1]

Unlike the densely scheduled U.S. weekend course, the Dublin course was offered over two subsequent weekends, and we took advantage of the rest days in between to go out to the NTC Equine Massage course and explain the principles of resonance to new prospective horse therapy students. An injured Irish hunter needing treatment was our demonstration project. The sturdy gray horse twitched his ears alertly while twenty-five pairs of eyes watched him be examined. “He had some bad falls training over solid fences and has been lame for over a year. He was set to be put down but his owner donated him to our massage student so she could practice massage on his tender muscles.”

He flinched, snorted, and stepped sideways when his student-owner-therapist passed her hands gently over his sides and shoulder muscles. He would walk but couldn’t be dragged into a trot and hadn’t run in over a year. The equine massage students saw what they expected to see: sore, knotted, tight and painful muscles.

After Terrell, Milos, the Australian runner, and so many others, I saw inflamed injured nerves adhered to fascia and muscles. The basic principles and the mechanism of injury were the same in a horse even though the anatomy was a little different. We set up the microcurrent with the graphite glove wrapped in a wet bath towel draped where the nerves to the twitchy tender muscles came out of his neck just in front of his shoulders. We put each of the two negative lead contacts into wet wash mitts and wrapped one on each front leg where the nerves and muscles ended.

The first task was to reduce the inflammation (40 hertz) in the nerve (396 hertz) and see what that would do. Two things happened in a very short time. He stopped flinching when being petted, and soon allowed his tender muscles to be massaged. And he started to fall asleep. He pawed the ground and splayed his ears out sideways, and his eyes drooped closed as he put his floppy lower lip near the arena dirt to lie down. We turned the machine off, jostled him awake, turned the machine on again, and went back to work. It took twenty minutes to fully quiet the injured nerves. Then we set to work on

the scarring between the nerves and muscles that prevented him from running. Using 13 hertz dissolves the scarring cross-links but leaves the normal tissue alone. His muscles relaxed and softened, and two of us worked one on each side to release his shoulders and chest muscles at the barrel where the girth would be. After about fifty minutes and a few more waking-up breaks, he was relaxed and no longer tender.

He was willing but cautious as she led him out to the rail first at a walk and then at a slow trot. His ears perked up and he tossed his head, snorted, and pranced when he found out it didn't hurt. He trotted faster until the handler couldn't keep up, and she turned him loose. Raising his head and his tail and squealing like a colt, he trotted faster and then ran ecstatically around the arena for the first time in a year.

Athletes are athletes whether they have two feet or four. Horses and mice don't have a placebo effect. The cytokine data and the mouse research were impressive and necessary for credibility, but watching the results run around the arena or the football field created joy and indescribable satisfaction.

6.

If You Listen Very Carefully

After Ireland, the myofascial students, and the happy horse, it was back to work at the clinic treating chronic complex pain patients. By this time it was clear that the frequencies really always and only did what they were described as doing, so the results of treatment helped clarify the diagnosis at the same time they helped the patient. It turned out that the frequency response, the resonance effect, helped disclose the cause of symptoms by treating them successfully. Practice became a matter of solving puzzles using frequencies as the key.

Treating was easy. The only difficulty was figuring out what the real problem was so you could guess what approach and which frequencies would be the solution.

The Toxic Printer

His face was strained with fatigue and pain as he started the history. “I am tired and depressed, have trigger points everywhere, and my doctor says I have fibromyalgia. He says you treat muscles with something different than massage. Massages don’t help much, and I am always sick for a few days afterward. I’ve had a bellyache since I was ten. My pain level has been a 7 out of 10 for years. I don’t sleep. I’m on three antidepressants and two different sleep medications.”

There had been no trauma and no accidents, falls, or sports injuries. He had owned a print shop for twenty-two years, had been in pain for the last seventeen years, and had run his business from his bed for seven of the last ten years. He had a reasonable diet and ate a huge bowl of popcorn every night; pasta and bread were his favorite foods. Just talking about his history exhausted him.

The physical examination confirmed his description. There were painful trigger points in virtually every muscle, but knee reflexes and the sensory nerves were normal, and he had no history of falls or accidents. This was not from inflammation in the spinal cord or nerves. His abdomen was so tender

that he flinched with gentle pressure, especially over his liver on the upper right. What was making his muscles and his abdomen so tender?

He talked more about his print shop. “Printing involves chemicals, and when all of this started I had my hands in vats of machine-cleaning chemicals that aren’t even legal anymore. We print brochures and posters and make big full-color laminated projects that used to make the air pretty thick with volatile fumes. These days we use better products and air scrubbers, but that didn’t help my symptoms. We are a big successful shop, and I love my work.”

The tentative diagnosis was pretty obvious. The chemical exposures from his print shop were poisoning the muscles and creating the painful muscle knots. It was a fairly reasonable guess that the toxins were causing the inflammation in the brain that made him depressed.

The liver is the body’s chemical detoxification center, and its job is to take apart and make harmless every substance it encounters. His liver was clearly working at maximum capacity and unable to keep up, which made his abdomen inflamed and tender. He didn’t tolerate massage. Normal metabolic waste products from muscle knots are released with massage, and that would add to the burden of the pain-producing print-shop toxins. If we worked on the muscles, the waste products would overwhelm his already marginal liver and could make him incredibly sick. How do you treat painful muscles without treating the muscles? We somehow had to treat the pain without treating the muscles.

When I was a pharmaceutical sales rep calling on wise older family physicians, one of them told me, “If you listen very carefully, the patient will tell you what is wrong with them. And if you listen carefully enough, the patient will tell you how to get them better.” As I sat there listening to the printer, that advice unexpectedly came to mind.

I told him, “We’re going to treat you for toxicity and see if that helps.”

There are three frequencies for toxicity. The description next to 57 hertz was “general toxicity” and 900 hertz and 920 hertz were for “organic toxins.” Those volatile smelly chemicals in his print shop were organic chemicals, as in oil-based chemicals, not as in nonchemical organic food. There was one graphite-conducting glove under his back and another on his abdomen over the liver. The current increases cellular energy by 500 percent, and even if the frequencies didn’t help, the current should give his liver a little boost.

His pain was a 7 out of 10 everywhere. Where does pain live? What senses pain and transmits it to the brain? Nervous system tissue does that job. What if his liver was overwhelmed by toxic exposure? There were frequencies on the list for nervous system tissue (45 hertz) and for the liver (35 hertz), and the quiet whisper of knowing said to use them.

The treatment had to be short so we didn't make him sick. The machine sent out the frequencies, and the glove on his abdomen heated up. He stopped talking, closed his eyes, and snored softly as the endorphins hit him. That looked promising. I watched the clock and worked through the combinations in exactly twenty minutes.

- 57, 900, 920 (toxicity)/35 (liver) for 2 minutes each
- 57, 900, 920(toxicity)/45 (nervous system) for 2 minutes each
- 40 (inflammation)/35, 45 for 4 minutes each

I turned off the machine and he opened his eyes. "What's your pain level?" He looked uncertain and surprised when he said it was a 2 out of 10. That was a very good start, and so far he didn't feel sick.

Listening to his history in my head, it seemed to me there had to be a reason why he told me about the "bellyache since he was ten" and the popcorn. Food allergies or sensitivities could cause belly pain and body pain from the allergy chemical histamine, which also stimulates a certain type of pain nerve called class C pain fibers. The next part of the treatment was harder than just applying frequencies. Grains are the most common allergens.

I told him, "No grains for six weeks. No corn, no wheat; not even rice. On Friday at the end of week six, you can have anything you want to eat all day."

He looked briefly devastated and then said, "I've been sick for seventeen years. I guess I can do anything for six weeks."

When the pain goes from a 7 to a 2 in twenty minutes, patients are more likely to give you the benefit of the doubt and do what you ask them to do. His pain never went back up above a 2. He took supplements that supplied what the liver needed to take apart and process the chemicals he was exposed to. He had already reduced his work exposure, which helped. He was treated twice a week for six weeks and eventually he learned to love Dina's massages. At week two, his depression lightened and his sleep improved, so his doctor reduced his medications.

On Thursday of week six, he grinned with happy anticipation about his plans for the Friday grain extravaganza. "I am going to eat a big bowl of popcorn and have a pizza. Why am I supposed to eat like this on a Friday?"

"If grains were making you sick, you'll know Saturday, and that will give you Sunday to recover before work on Monday."

Tuesday afternoon he greeted me with a look that might have been resentful, except for the lopsided knowing grin.

"How bad was it?"

“I was in bed all of Saturday and half of Sunday. I had no idea it could do that. I think I can live without popcorn and wheat.”

He came in once a month for another six months. At the end of three months he was off all three antidepressants, down to one mild sleep aid, walking two miles a day with his wife, and completely pain-free. When he discontinued the second antidepressant, his wicked sense of humor and capacity for awful puns surfaced. When he discontinued the third one, his libido returned, and his wife started coming in with him to refill his supplements.

If you listen very carefully, the patient will tell you what is wrong with them.

Fibromyalgia Is Not One Thing

Fibromyalgia is a full-body pain condition that is really complex. There are literally thousands of books, medical papers, magazine articles, and blogs written on what we know about it, the suffering of the people who have it and what they do to cope, and how it can be helped. The nervous system, endocrine system, digestive system, and immune system all become deranged. Nothing works right. But in the end it all makes sense if you listen.

The most important thing you need to know about fibromyalgia is that it can be cured, if you listen very carefully.

The basic fibromyalgia symptoms are the same for everyone when they get the diagnosis. (1) They have full-body pain, and the brain changes the way it handles pain. Your midbrain normally suppresses pain. When you bash your shin on the coffee table and the pain spikes up, you instinctively rub your thigh, and in seconds the thalamus, in your midbrain, drives the pain back down. But in fibromyalgia the midbrain gets such constant pain signals that it changes from suppressing pain to amplifying pain. (2) Fibromyalgia patients don’t sleep well. Normal patients drift into light sleep and then drop into deep stage-four sleep, where the brain generates very slow delta waves. This deep delta sleep helps you make growth hormone and restores your body and brain. In an adult, growth hormone repairs day-to-day muscle microtrauma. Fibromyalgia patients never get to stage-four sleep. There is an alpha wave, a light-sleep pattern that intrudes almost immediately, so there is no restorative sleep and no growth hormone; they don’t repair muscles, and they’re always tired.

Because FSM could treat pain and fibromyalgia associated with spine trauma, the clinic attracted all kinds of fibromyalgia patients. After seeing close to two hundred fibromyalgia patients, certain patterns appeared in the

histories, symptoms, and successful treatments. Years spent listening to experts and reading books and articles brought the patterns together like distinctive kaleidoscope images. There were different, sometimes overlapping clear-cut causes of fibromyalgia. Patients walked in the door with the same diagnosis and the same symptoms, but if you listened very carefully, they described different paths that brought them to the door. The journey back to health has to follow and then erase the path to this disease, and probably most diseases.

Traditional medicine makes fibromyalgia all one diagnosis. As a medical culture, we want a simple disease so we can have a simple prescription drug that will fix it. If you have multiple symptoms, there are multiple drugs for the multiple symptoms.

The symptoms are not the path, and while treating the symptoms helps you feel better where you are, it doesn't propel you forward on the journey to health. The average medical office visit takes seven to ten minutes. Listening takes time. New patient visits took sixty minutes, and follow-up sessions could be twenty to forty minutes. The clinic never ran on time, but there was always time to listen.

The Accountant

She was sweet-faced and probably pretty before the pain, weight gain, and exhaustion changed her life. The history was classic for fibromyalgia. First the pain started, then sleep stopped being restful, and then the weight gain started, and the irritable-bowel symptoms, and feeling cold all the time. The history starts with the symptoms, and then it works back to how it all started. People don't think about the path that led to illness, so you have to ask—and then listen.

She was a CPA in private practice and loved her job, her husband, and two healthy children. No auto accidents, no falls, no spine trauma or head injuries. Symptoms started two years ago, and she had gained almost a hundred pounds in that time. She was not menopausal and didn't have hot flashes; she just didn't sleep well. She didn't eat popcorn or bread much and didn't crave sweets or ice cream, so it probably wasn't food allergies. She had no organic chemical exposure, so that wasn't it. She worked reasonable hours, and didn't feel particularly stressed until she got so sick. No immunizations, so no viral infection or heavy metal reactions. No foreign travel, so parasites were not likely. No root canals or infections as far as she knew. She lived out in a stress-free rural area east of Portland and loved her little house. None of the usual causes of fibromyalgia showed up in her history.

The answer had to be there. Fibromyalgia doesn't come from space and jump on you. So we started over after sixty minutes and a bathroom break.

"You said you haven't had any organic chemical exposure, but have you ever lived on or near a farm, or near an orchard?"

"Oh, yes. Three years ago we moved out to the country, and we live in a perfect little house in the middle of an orchard."

The room got very quiet and time slowed down.

"Do they spray the trees?"

"The men come in moon suits once a month or more and spray the orchard. They told us we just need to stay in the house for a few hours and then it's fine. They said the well water we use is just fine too, so we don't even have to use a filter."

There it was. Her treatment that day and twice a week for a month treated her liver and nervous system for toxicity. Like the printer, she was pain-free after every treatment, but the pain always came back. She couldn't put air scrubbers in the orchard, or filters in the well water, or change the chemicals they used. The solution for her was more complicated. There are genes that control how well your liver works, and hers weren't up to the task. That's why she was sick and her family wasn't. You can't change the genes, but you can optimize their function. She started on supplements to push the liver enzyme pathways to process the toxins, and that helped. But she was being poisoned every day.

She needed a break from the orchard, and the family jumped at the invitation for a one-month visit to stay with her aunt in Hawaii. She returned to Portland glowing, pain-free, and twenty pounds lighter. The pain came back within a week of their return. It was the house and the orchard and the men in moon suits.

She looked at me one day and said, "I have to move." After the move, she was better in four weeks. If you listen very carefully, you can tell yourself how to recover.

The Real Estate Broker

Her trim angular body fidgeted in the chair, and she asked if she could stand as we talked. "I have fibromyalgia, and I've been off work for over a year. My husband is on disability and I have to get back to work. I was a real estate broker and started working eighty hours a week once he got injured three years ago. I loved the job and made great money. I can't work at all now; I can hardly get out of bed. I don't sleep, I'm allergic to everything, my muscles

hurt, and my digestion sucks. My hormones are out of whack, and it's like I have terminal premenstrual syndrome. They say the fibromyalgia and pain are all in my head, so I can't get disability. We certainly can't live on his disability, and we're just about out of savings. They tell me you do something different here. I have to get better. I don't have time for this."

The hour-long history was pretty clear. No spine trauma, no accidents or falls. Normal reflexes, so no spinal-cord inflammation. No head injuries, no organic chemical exposure, no orchard, no weight gain, not much brain fog, but lots of fatigue, irritability, pain, and sleep disturbance. No foreign travel, so no parasites. No moldy house or sinus infections, no immunizations or viral infections. No menopause to cause sleep disturbance. No wheat addiction. Just stress. As sole supporter of her family, working eighty hours a week for two years, the stress was just too much for her system.

The answers were all in her history. Think about severe prolonged stress. The stress response is designed to keep you alive for the twenty minutes it takes to run away from a tiger and avoid being eaten. Your system is not designed for nonstop stress eighty or more hours a week for two years.[1]

When you're running away from a tiger, your heart pumps harder and sends more blood to make your muscles work harder so you can run away faster, but it reduces blood flow for digestion. There is no need to digest your food, because you have twenty minutes to live. Stomach acid and digestive enzymes are reduced for the same reason. The pancreas makes both enzymes and the bicarbonate you need to keep the body's acid-alkaline balance in the crucial normal range. Under severe stress the pancreas reduces enzymes but keeps making the critical bicarbonate so you don't die from excess acid. This makes your intestines more alkaline than normal, which changes the bacteria that live there. I know this gets complicated, but if you can hang in there, you'll understand a lot more about how your body reacts to stress.

There are eight pounds of bacteria and other microbes in your intestines that help digest your food and break it down into the usable bits you need for health, energy, and repair. The bacteria also make short-chain fatty acids and other materials that repair the daily damage happening to your intestine wall. This huge community of friendly, helpful bacteria stays balanced in a more acid pH environment. When the gut contents become more alkaline from the lack of digestive acid, the friendly hard-working acid-loving bacteria die out; less friendly, less efficient alkaline- and bicarbonate-loving bacteria move in, and gut wall repair suffers. The overlapping tight junctions in the gut wall that normally keep the inside contents totally contained become microscopically less tight and allow tiny molecules to leak across the wall. Just the stress of a two-hour football game makes the gut leaky in professional football players;

imagine what can happen with two years of constant stress in the serious game that was her life.

Eighty-five percent of your immune system surrounds your gut and patrols with constant vigilance, looking for tiny molecules creeping through the wall. The immune system reacts with strategic responses like inflammation, and it sends antibodies to latch on to the foreign food molecules that are now called "antigens." Immune foot soldiers called macrophages grab the antigen-antibody complexes and vacuum them up. But macrophages have notoriously poor appetite control and just don't know when to stop, and they vacuum until they burst. When macrophages burst, they release histamine, and histamine stimulates the class C pain fibers that make you ache all over.

Histamine is also a brain stimulant that keeps you alert and irritable lest you miss the chance to escape the tiger at night, but it also keeps you from deep sleep. This is fine, because you also don't need to repair muscles with the growth hormone you would have produced during deep sleep, since you'll be dead in twenty minutes anyway, and won't need to repair anything. Survival strategies are very efficient.

The immune system seems to know that tiger spit has lots of germs, and it gets more active to protect you from the bugs in the tiger's bite. Highly stressed patients don't get infections or colds because the immune system is more vigilant, but they are allergic to everything around them because the immune system is too vigilant.

The constant stress increases a stress hormone in the brain that regulates all of your other brain hormones, which is why she felt like she had "terminal premenstrual syndrome (PMS)." If you have twenty minutes to live, why on earth would you want to be pregnant? The stress hormone in the brain, called corticotrophin releasing factor (CRF), reduces follicle stimulating hormone (FSH), the hormone that stimulates the ovaries to release eggs, and luteinizing hormone (LH), the hormone that helps you get and stay pregnant. These brain hormones help you make progesterone, and since you're not going to live long enough to ovulate or be pregnant, you certainly don't need progesterone to balance out the estrogen from your ovaries. But without progesterone you become estrogen-dominant and feel as if you have "terminal PMS."

Stress-response glands that sit on top of the kidneys, the adrenal glands put out stress hormones and the anti-inflammatory hormone called cortisol to help your system deal with the stress of the chase and the inflammation that goes with it. But eventually they give out in exhaustion. When they can't produce enough cortisol to stay ahead of the daily inflammation, you get aches and pains and fatigue from the inflammation. Then the midbrain starts amplifying pain, and we call it fibromyalgia.

See how it is all connected? The body is amazingly efficient and totally interconnected.

We are designed to be dead, or not dead, after twenty minutes of stress. Two years of this kind of stress leaves you with fibromyalgia, body pain, fatigue, digestive problems, allergies, "whacked-out hormones," and "terminal PMS."

All of this information is out there in various books and articles as well as lectures at functional medicine and Fibromyalgia meetings. As the fidgeting patient told her story, the random disconnected factoids from years of listening to lectures and patient histories formed a pattern. Pattern recognition is the key to accurate diagnosis and successful treatment. Most physicians see one or two fibromyalgia patients a month; I saw five to ten in a day. Recognizing the patterns became easier because there were enough of them to provide clear pictures.

If you listen very carefully, the path to disability determines the treatment that will take you back to health. It wouldn't do any good to use the toxicity frequencies or treat spinal-cord inflammation, because that isn't what she had.

There is a frequency to neutralize the histamine (allergy reaction, 9 hertz) from the bursting macrophages that made her soft tissues ache. There are frequencies (124, 294, 321, and 9 hertz) that repair and reduce inflammation (40 hertz) in the gut (22 hertz, the small intestine). There are frequencies that help restore (124, 294, 321, 9, 81, and 49 hertz) the adrenal glands (71 hertz). There is a frequency that quiets pain amplification (40 hertz) in the midbrain (89 hertz). And the concussion protocol seems to reset the brain stress response, as discussed in "Concussion Protocol " in chapter 9 .

With a glove under her back and a glove on her abdomen so the current could give extra energy directly to the gut and the adrenals, she fell asleep on the table during the hour-long treatment.

She woke up pain-free and listened very carefully while I explained how the stress created her condition and what it would take for her to heal. She agreed to take the supplements that should help heal her gut and restore her adrenal glands. She agreed to an early bedtime, stress avoidance, daily walks, and an allergy-elimination diet until her gut healed.

Table 6.1. The frequency list: Channel A

Condition	Frequencies (in hertz)
allergy reaction	9

repair basics: remove trauma, paralysis, allergy	294, 321, 9
something torn or broken	124
general toxicity	57
organic toxins	900, 920
emotional component	970
inflammation	40
increase secretions	81
vitality: promotes vitality	49

Channel B

Tissue	Frequencies (in hertz)
small intestine	22
liver	35
nervous system tissue	45
adrenal glands	71
fascia	142
arteries, muscle belly	62
connective tissue	77

After treatments once a week for six weeks, the tiger fell asleep in the driveway, and the fibromyalgia was gone a few weeks later when the tiger became a dim memory. It took close to a year to build up her reserves, but she never went back to her old high stress choices, and she was able to go back to work.

Listening carefully goes both ways. Listening to the patient makes the problem-solving, correct diagnosis, and successful treatment possible. In a

perfect world, the patient listens to the inner voice that asks for recovery, overcomes the crowd noise that says it's incurable, and becomes part of the solution.

The Diabetic Marine

There was something special about the tall, fifty-something, barrel-chested former marine besides his diabetes and the large wound on his left foot. All patients are special, but this one connected somehow with his soft yet strong, direct but unassuming approach and a wicked dry sense of humor. His wife made him come, which doesn't usually bode well for a successful patient relationship, but he ended up keeping his appointments on his own after a few weeks.

The history was straightforward. Multiple deployments twenty years earlier left him with some back trouble, and his sedentary civilian life and high carb, gluten-rich diet gave him diabetes five years earlier. He was on all the right meds, but his blood sugars were too high, which suggested that his diet could use improving. His feet were painful and numb; his large belly said he was insulin resistant, and he had a wound on his left leg that wouldn't heal. His wife found me on the internet and brought him in.

By this time treating diabetic wounds was straightforward, and the treatments were programmed to run automatically on digital FSM microcurrent units. It didn't seem to matter how chronic they were; the wounds closed and the pain went away in two to four weeks. Necrotic wounds with blackened dead tissue and toes or feet scheduled for amputation had always responded. So the shallow seven-inch-diameter wound on his left calf wasn't concerning.

He leaned back in the treatment room recliner twice a week for three weeks with adhesive electrode pads above and below the wound-care bandages and told Marine Corps stories. The wounds healed nicely, but his feet went numb again within a few days of treatment, which suggested that his sugars were too high. Diabetics with well-controlled sugars only needed treatment once every few weeks to keep sensation normal in their feet and prevent the otherwise inevitable wounds. Elevated blood sugar is toxic to nerves and blood vessels, and there is no way to stay ahead of the damage with treatment. Numb feet mean high blood sugar.

Even medicated diabetics need to keep a close eye on their diet and blood sugars. They need to exercise to make the body more sensitive to whatever insulin the pancreas can manage to make and take their meds if they want to

keep their feet, their vision, erectile function, and kidneys. Diabetes is nothing to trifle with.

It was my job to ask him about his blood sugar levels every time he came in.

"What was your blood sugar this morning?"

"I don't know. I didn't check it," is not the answer you want to hear ever, much less twice a week for six weeks.

"What's your hemoglobin A1C?"

That's the lab value that gives you a picture of long-term blood sugar levels by measuring the amount of sugar in red blood cells. It should be below 6.0. He wasn't sure about that either, but he thought maybe 11 sounded right? By then my alarm shifted from concern toward panic.

We talked about diet. We talked about exercise. I talked. He didn't listen much because he didn't change. Listening had to go both ways. Mostly I listened to war stories and hunting and fishing stories. He loved being active, but when it came to his health he was frustratingly passive. He was such an engaging charming person; he made the treatment sessions entertaining as well as therapeutic. I didn't want him to die. Where was the internal voice asking him to recover? Why couldn't he hear it? Where was his will to live?

One day it occurred to me that his passive self-defeating behavior wasn't going to change, and if he remained my patient, I was going to have to watch him kill himself. It was like watching a train wreck in slow motion. When we talked about his health he took on the subtle demeanor of a twelve-year-old refusing to eat his green beans. What I heard him say with action, or the deliberate lack of it, was, "You can't make me." I have to admit I finally lost it and got in his face.

"You know, if you're going to kill yourself, I wish you would just go do it and not make everyone sit here and watch you do it bit by bit over the next ten years. You know how this is going to end, right? Somebody has told you what lies ahead if you keep on this way? Wounds, lost toes, dead kidneys and dialysis, heart damage, and blind eyes are all coming, and you'll die a little excruciating bit at a time. This is stupid. Why do you want to die?"

The quiet, insincere denial suggested that I was too close to the truth. Losing it with a patient is hardly ever a good idea, but getting in the face of a marine usually gets their attention.

"OK, so you don't exactly want to die, but you don't seem to want to live either. Talk to me, man. Don't die on me. Don't make me watch it. What would make you happy? What could you do every day that would make you want to live?"

He fixed his gaze someplace over my shoulder and quietly said, “I want a motorcycle.”

“Excuse me?”

This time his voice was stronger, and he made clear eye contact, as if saying it out loud made him more certain. “I want a motorcycle. I would love to be able to ride a motorcycle fast and be free for hours at a time smelling the fresh air and feeling the speed.”

“So why don’t you do that? You can afford to buy one. Go for it.”

In the answer, I heard the resistant twelve-year-old, “My mother and my wife don’t want me to. They said they’re afraid I’ll crash and lose my leg.”

“If you don’t start checking your sugars, exercising, and watching your diet, you’re going to lose your leg anyway, and it won’t be nearly as much fun as riding out highway 84 on a motorcycle.”

He listened to that surprising logic, and his face changed as he saw the fork in the road in front of him. The self-destructive path of passive resistance to an overbearing mother and a loving doting wife was on one side; the emotionally unfamiliar and risky path to bursts of freedom, self-expression, and a motorcycle was on the other side.

I asked him for details so the picture would be clear in his mind. What kind of motorcycle? What brand? What model and color? When would you ride it? Where would you go?

We finished his treatment, and I wrote him a prescription for a motorcycle.

“This patient should have a Red Honda Goldwing motorcycle as soon as possible, to be ridden as often as he wants.”

Two weeks later he bought a CustomCare home microcurrent unit programmed with the same frequencies we used in the office so he could treat himself at home. And he went motorcycle shopping.

As he left the room, I had to smile. The old osteopath was right. “If you listen very carefully, the patient will tell you what is wrong with them. And if you listen carefully enough, the patient will tell you how to get them better.”

I wasn’t sure how to teach that in seminars, but it’s almost as important as picking the right frequencies and making the right diagnosis. Finding the key that tunes patients to their own resonance was crucial to successful treatment. Your body knows how to be well and yearns for healing, but you have to learn to listen.

7.

How Do You Do That?

How do you *do* that? It depends on which "that" we are talking about. How do you successfully treat chronically ill and pain-ridden patients? Choosing therapies like supplements, physical therapy, or injections and using specific frequencies to treat patients was, eventually, easy. Picking through information from hundreds of hours of continuing education and listening to experts enough times to absorb enough information about how deep body systems really work finally formed an integrated platform of understanding. Thousands of patient-experience hours and learning from countless mistakes made patient successes relatively easy after a few years. When the only patients you see are the 5 percent of patients no one else can fix, recognizing the patterns becomes fairly straightforward. The pain generators and problems missed by skilled experienced practitioners sorted themselves into a finite number of things to look for. Once the problems were found, a solution either presented itself with the help of skilled colleagues and FSM and the patient recovered, or it was time to look the patient in the eye and say with compassion, "This is a management problem. And here is how we're going to manage it."

How do the frequencies do what they do? Jim Oschman has described this so eloquently in *Energy Medicine* [1] that I can't begin to improve on it or pretend that it can be condensed effectively by someone with my rudimentary knowledge of biophysics. The math involved makes my brain hurt. The simple analogy of the key fob opening only one specific car door with a signal instead of a key and the visual of the singer who shatters the lead-crystal glass with the precision of the note are enough for me. I don't worry about proving mechanisms of action any more. Either people get it or they don't.

The biophysics is all there for anyone who wants to learn it. Becker discovered our essential electrical design and published it in *The Body Electric* [2] in the 1980s. Did you know that the water in your cells is organized like a silicon wafer and turns your body into something exactly like a computer chip? Albert Szent-Györgyi published this in scientific papers in 1941.[3] Did you know that the water inside your cells isn't water? It's a gel that communicates internally like a computerized version of the jiggly dessert. Read *Cells, Gels, and the Engines of Life* by Gerald Pollack[4] to become

amazed and then convinced. Professor Irena Cosic describes resonance with clarity:

> *Extensive study has concluded that each specific biological function or interaction is characterized by a single unique frequency. Protein interactions represent the transfer of resonant energy between the interacting molecules at the frequency specific for each observed function/interaction.*[5]

Using frequencies to heal with the reality of the resonance effect isn't weird or woo-woo; it's simply physics, applied to biology instead of star systems. The exact mechanism by which this particular list of frequencies came to be and how these specific frequencies work to change tissue function and structure will take more than my lifetime to study and clarify with research and good data. As a clinician and scientist, it is enough that frequency protocols are teachable and create reproducible, predictable, and consistent results. It is intellectually satisfying that science has a reasonable model for how frequencies change symptoms, but in the long run, it is much more important that patients without hope can improve or recover, as outlined in chapter 10 .

The hardest thing to do in the last twenty years was to learn how to teach people to think about the frequencies and how to use them sensibly, creatively, and responsibly, no matter what problem was in front of them. It is almost as important to know what not to treat as it is to know how to treat what you can.

The seminars started in 1997. The Core Seminar started out as a two-day weekend course and has evolved into an intense three days of lectures and practice. Students learn how to diagnose the conditions FSM treats and then learn the frequency protocols to treat them appropriately. They learn the precautions and contraindications so they can use the frequencies safely. It's a little like learning a new language in three days.

What students have not learned at a weekend seminar doesn't become apparent until they ask questions a year or so later, revealing that they totally missed or misunderstood some crucial information. If they missed it, it means that it wasn't taught effectively. Their questions made the seminar deficiencies painfully obvious, and the seminar changed almost every time it was given. Each year the questions were different but still revealed holes in the teaching. It was a glacially slow learning process until I finally tried training two instructors to teach the Core Seminar so I could eventually be replaced. Both of them sat and listened to me teach four seminars in 2008, and then I sat and listened to both of them teach four seminars each in the next year. Listening as

a student made obvious the sticky spots where the material was unnecessarily dense, slow, and obscure. Listening was a struggle instead of an easy flow. Every time I sat in the audience for three days of lecture and practice sessions, the slides changed dramatically on the flight home. In those two years, the seminar improved exponentially. The two instructors did a great job but eventually decided that teaching just wasn't worth the weekends of effort, and moved on to other endeavors. But thanks to those years, practitioners learned more easily, and the questions decreased dramatically.

The three-day Core Seminar is still too much material to be taught in three days. The diagnosis and treatment protocols condense twenty years of experience into 621 slides and twenty-six hours of lecture and practicums. It's almost cruel to jam that much material into twenty-six hours, but for years it has been impossible to decide what to send people home without. Then someone in a Train the Teachers class said, "What you want to say has nothing to do with what they need to hear in order to learn what you want to teach them." I began to rethink the "drink of water from a fire-hose" strategy and started looking for ways to create specialty courses for specific interest groups.

Now there is a two-day visceral seminar for integrative and functional medicine physicians focusing on medical problems rather than pain management, cosponsored by the International College of Integrative Medicine. The new two-day sports seminar with recovery, rehabilitation, and performance-enhancement protocols for trainers and sports medicine therapists was written and organized by Kim Pittis, an instructor who treats Olympic and professional athletes. And we're creating a two-day focused course for physical therapists. So, finally, the teaching has matured.

The FSM Advanced Course teaches an additional six hundred–plus frequencies for additional tissues and conditions. It has become a once-a-year, two-day intensive with expert FSM practitioners as faculty deep-diving in hour-long workshops in physical medicine and visceral medicine tracks. The practitioners are equally divided among physical therapists, medical and chiropractic physicians, naturopaths, and acupuncturists. Specialists in pain management, neurology, physical medicine and rehabilitation, dentistry, rheumatology, obstetrics and gynecology, internal medicine, veterinary medicine, drug rehab, massage therapy and wound healing all come together to learn how frequencies and an improved understanding of the causes of dysfunction can improve their outcomes.

How to teach "informed intuition" was more the delicate matter of encouraging people to listen to their own quiet voice in the stillness. It couldn't be my voice they heard; somehow permission had to encourage them to be still and hear their own inner voice. It was the voice that murmured, "I

wonder if it is a virus? I have a frequency for that. Maybe I should try it." Students are warned that the course comes with a little bird speaking at their shoulder in sock-puppet fashion: "I wonder if this is what I should use?" When they expect the voice to be there, it's easier to learn to listen for its advice.

Intuition tunes the listener's personal receiver first to his or her own transmitter, and then the signals from the patient's transmitter can come through. Everyone's intuition is different, and the intuitive communication with every patient will be unique. The frequency response, the tissue softening and relaxation that happens with the resonance effect, will confirm the intuition as right or wrong almost immediately. The seminar only teaches a small part of what there is to learn about frequencies and how to use them. The frequency response and the voice of informed intuition harmonize to teach at every patient treatment.

The resonance effect is part of nature; it will always be with us. But how does FSM as a therapeutic technique survive? How do you do that? Every frequency-based therapy ever devised has gone by the wayside. Abrams and others treated the ills of the day, including cancer, with frequency therapy, and the AMA, using the threat of loss of license, shut them down in the 1930s. Royal Raymond Rife had no students, only two machines in existence, and his treatments focused on curing cancer. The FDA raided his laboratory in the 1940s, destroyed his equipment, destroyed the records of his successful cancer outcomes, and ultimately destroyed him with a sneering PR campaign that labeled him a quack. These were cautionary tales. How could FSM avoid their fate?

First, follow the rules. The FDA regulates microcurrent devices as if they are transcutaneous electrical nerve stimulation (TENS) devices, approved only for the treatment of pain. Microcurrent devices use a thousand times less current than TENS machines, and microcurrent is in no way related to the mechanism of action of TENS devices, but a rule is a rule. Regulatory survival dictates that the devices are kept separate from the frequencies. The seminar slides have only to do with the effects of the frequencies and nothing to do with the devices. When the FDA came to visit in 2010, thirteen years of preparation meant that twenty hours of dogged interrogation and fourteen pages of affidavit led to no changes in the seminar material and no fines. It was close to miraculous.

Second, don't treat cancer. Period. Ever. From the very first seminar, students were told that we do not treat cancer or infections with frequencies. If they were successful in treating cancer by some miracle, I would consider it a personal favor if they would never, in print, mention FSM and successful cancer treatment in the same paragraph. There is an ethical as well as political

basis for this caution. Pain is just pain; treating pain affects the quality of life, not life itself. Cancer is potentially lethal. Treating cancer requires more research and certainty than treating pain. So far, everyone has respected this restriction. Specific frequency protocols have proven useful over the years for treating nausea from chemotherapy, scar tissue from radiation therapy, and pain in terminal patients. Frequency-specific therapy using the resonance effect is used as an adjunct to proper medical, chiropractic, or naturopathic evaluation and treatment.

Third, do research and play the game of evidence-based medicine. The evidence-based model was introduced in the 1980s to bring medicine into alignment with stringent statistical evidence for therapeutic effectiveness, ignoring the fact that medicine is as much art as it is science. I don't mean to offend the earnest believers in evidence-based practice, but I have always suspected that the real reason for idealizing double-blind placebo-controlled studies as the basis of legitimate medical practice had more to do with ensuring that the cost of doing the studies would eliminate all but the pharmaceutical companies from being credible. Double-blind studies mean that neither the patient nor the practitioner knows what treatment is being used. The study design eliminates every patient with any condition that could complicate the results, which in fact eliminates most of the patients who walk into our offices. These studies require that the treatment be exactly the same for every patient. The studies are expensive and have to be done by medical institutions that are generally resistant to new or alternative therapies. For a customized novel therapy like FSM being used to treat complex patients, these hurdles make such studies virtually impossible.

And, believe it or not, one institution has insisted that unless the products of research done at their facility can be "commercialized," they won't do the studies even if the research costs are paid. I wasn't sure what to do with that attitude, so I walked away from an amazing research possibility at this prestigious medical institution. There is one single frequency combination that dissolved severe abdominal adhesions in three anesthetized rats. Those adhesions had been surgically created one week earlier. Once the rat was anesthetized, we opened up the abdomen and used electrode tips wrapped in wet gauze to conduct the current across the abdomen. The adhesion looked like stiff white gristle gluing the intestine to the abdomen wall.

We planned to use five different frequency combinations to see if anything would change the adhesion. Each time we treated one of the three rats, the frequencies were in a different order. But every time the frequency combination 13 hertz (remove scar tissue) on channel A and 77 hertz (connective tissue) on channel B was used, the stiff, hard white scar tissue turned clear and liquefied before our unbelieving and unprepared eyes. The

adhesion turned from gristle to clear liquid mucus in five seconds and left the normal tissue untouched. It was disorienting. Nothing in medicine works that way on this type of scar tissue. The implications for relief for millions of patients suffering from abdominal adhesions and pelvic pain are enormous. The next day, in a separate private clinic, we treated six patients with chronic pain from abdominal and pelvic adhesions, and all six left the treatment room pain-free at the end of sixty minutes.

The researcher wouldn't accept a research proposal or agree to accept funds for a research trial until we could figure out a way that he could patent the procedure or a device and commercialize it. I still shake my head about that one. How do you do research in that kind of environment? How will patients ever find relief in that kind of environment?

Fortunately for us, collected case reports count as evidence. Eight peer-reviewed papers, including the delayed-onset muscle soreness placebo-controlled trial, five related book chapters, and a medical textbook have given FSM a foothold as evidence-based. FSM practitioners are beginning to publish their own papers. Ulnar nerve pain, abdominal scarring and pain, postoperative pain, attention deficit hyperactivity disorder, and diabetic wound healing are all on track to become peer-reviewed published papers. Optometrist Laurie Chaikin has published a paper showing that FSM improves both wet and dry macular degeneration that otherwise progress to blindness.[7]

Fourth, train as many quality licensed practitioners as possible before coming above the radar of conventional medicine and into the sights of the FDA. Learn the lessons of Rife. The seminars started so we could find out if the effects of the frequencies were real. Could the concepts and protocols be taught? Could any thoughtful practitioner reproduce the results? When the answer turned out to be yes, the seminars continued, because it would have been immoral not to teach them. Most of the conditions best treated with frequencies don't have good outcomes with standard medical care, so providing a new successful treatment option was unlikely to antagonize conventional interest groups.

At this point, there are over three thousand licensed practitioners in eleven countries using Frequency Specific Microcurrent. More than five thousand have been trained, but using FSM doesn't suit every mind or every practice. FSM clinicians have to enjoy seeing patterns and solving puzzles in a practice with twenty- to sixty-minute patient treatment slots, and some practices just can't spend that kind of time with a patient. FSM patients take up clinic space while they're being treated for nerve pain or concussion or fibromyalgia, so the practice has to have two or three treatment rooms to give them the time they need. The practitioner needs to be the sort of person who enjoys it when

the patient recovers and no longer needs to see them, so the "come back twice a week forever" practice model doesn't tend to use FSM.

Fifth, quality devices need to be available for practitioners and patients, distributed by a company that follows the rules. The original Precision Micro blue box was great for hands-on individualized treatment, but after a few years certain protocols were so standardized that there had to be a better way to provide a sequence of frequencies than the beeps of two-minute timers going off in the hallway telling office staff to change the frequencies. The original skin-care device sitting across the hall from the dizzy longshoreman sequenced through frequencies automatically. That unique technology was just what we needed for the basic protocols, and the manufacturer modified an existing device to run our particular sequences of specific frequencies. The HomeCare was the first automated device, and fibromyalgia patients recovered more quickly because they could control their own symptoms at home. Treating nerve pain, post-stroke pain, shingles, concussion, and soft-tissue injuries was so standardized that prescribed units could simply run sequences of frequencies to help patients recover at home. There doesn't seem to be a placebo effect, so a practitioner didn't need to be there to make the magic happen.

Figure 7.1. The first automated unit, the HomeCare, was released in 2002 for fibromyalgia and other pain patients to use at home. It is always better for pain patients to have some way to reduce their pain without using medication. Fibromyalgia patients needed a way to keep their pain below a 4 out of 10 if they were going to recover.

Microcurrent had fallen out of favor starting in the 1980s, leading to a void in the kinds of two-channel devices that could do FSM therapy. Microcurrent Technologies in Seattle stepped up to create quality U.S.-made units that met our standards. Practitioners needed a sturdier tabletop-size unit, and so the AutoCare appeared in 2003. Various iterations flowed from this early start as the frequency protocols evolved from clinical experiences. The AutoCare 1300 delivers 120 preprogrammed sequences of frequencies that allow most clinicians and athletic trainers to treat almost any condition they see.

Figure 7.2. The AutoCare was a sturdy tabletop unit for office use that delivered preprogrammed sequences of frequencies, making patient care more efficient.

The CustomCare allows practitioners to program any sequence of frequencies into a software mode bank and program up to forty-five customized protocols onto a small handheld pocket-size unit. The venerable analogue Precision Micro—the blue box—gave way to a digital version called the Precision Care when the analog parts became scarce. George Douglas owns Precision Distributing, and he makes sure that they follow the rules. The devices don't make claims about the frequencies or protocols, and the seminars don't talk about the devices.

Figure 7.3. The CustomCare can be programmed by the practitioner with up to forty-five customized protocols that sequence through frequencies automatically using special software. This unit allows the practitioner to treat even complicated patients at home to help with recovery.

Figure 7.4. The Precision Care is a digital version of the venerable Precision Micro Blue Box. Frequencies can be set manually on both channels, and the current can be used as either alternating or polarized positive. It is optimal for manual therapists who need to change frequencies quickly based on how the tissue responds to frequencies, and it is essential for practitioners who need unusual frequencies to treat complicated conditions.

More devices appeared on the market as the interest in microcurrent grew. Many people, and most device companies, want electromedicine to be about a gadget, a point-and-shoot machine that is going to produce some benefit without any thought on the part of the practitioner or the patient. There are devices that simply do the same thing for everyone and provide non-specific "energy" for healing. Now there are even computer-driven machines that claim to do the diagnosis and may even have fancy touch-screen displays showing where the problem is in bright colors. Then the machine decides what the treatment should be and delivers it. The purpose appears to be to make a device that is simple to explain and simple to use so it can make money easily. People seem to forget that the machine had to be programmed originally by some person doing analysis and choosing the treatment.

FSM depends on an educated thoughtful practitioner who understands the problem, using two correct frequencies to make profound changes in tissue function and structure. The resonance effects of frequencies make the practitioners better physicians because the frequency response is so reliable. When Todd Robinson, a medical doctor, was helping out at the FSM booth during the functional-medicine international symposium, I heard him explain how FSM had changed his practice after eighteen years. "The frequency response made me better at diagnosis. If the frequency protocols don't work, I know my diagnosis is wrong, and we go back and take another look. If I understand the problem and have the diagnosis right, the frequencies always work."

Sixth, don't make claims. The first seminar slide says, "FSM does not make any claims about being able to diagnose, cure, mitigate, treat, or prevent any condition or disease." The resonance effect is so profound and powerful that it leads inevitably to humble integrity. Specific frequencies act as if they have very specific effects that change symptoms, but without further research, there is no way to know, with certainty, what the frequencies are actually doing on a cellular level.

You can honestly say that only one specific frequency combination (230 hertz/430 hertz) stops the pain and eliminates the lesions of acute shingles overnight after four to six hours of treatment in thousands of cases treated by hundreds of people since 1996. You can say that this frequency combination has not been useful for any other condition. You cannot say that the frequency is killing the virus, even though it looks as if it must, because no one knows exactly how it works. The same can be said for every other frequency effect. The 40 hertz frequency acts as if it changes cell signaling to reduce inflammation, but intellectual honesty requires restraint. The data and clinical experience say this frequency reduces inflammation. But we can't say how it is done because we don't know—yet.

Observation comes from careful inquiry. “You do this, and that happens” is an observation. All science starts with observation. Observations that have been measured become data. You can’t throw out the data because it doesn’t match your model for how the world works. Knowledge makes progress when science changes the model to match the new data. When you see a swollen knee reduced in size in thirty minutes, that’s an observation. When you measure the change in centimeters, that’s data. When you say, “I can cure rheumatoid arthritis in thirty minutes,” that’s a claim. It’s an important distinction.

And most important, in order to do anything, you need to stay alive. For me, between 2007 and 2013, that wasn’t as easy as it sounds.

The voice of informed intuition guided a lot of decisions in the early years. Learning to listen wasn’t always easy or painless, and what was learned was often a surprise. The quiet voice could, it turned out, be easily overridden by enthusiasm, ego, or wishful thinking. The disastrous moldy clinic expansion was in the long run unnecessary and expensive, and the new rooms were too small because I hadn’t been clear enough with the landlord. The devil was usually in the details that my intuition preferred not to consider. Taking on and training associates so patients received a consistent clinic experience wasn’t my strongest skill set. The associates ended up being wonderful people, but I ended up being a terrible manager, which made the clinic more chaotic than it needed to be.

Discernment in the subtle realms of intuition takes time to learn. Attention to detail, which came easy when choosing frequencies in the treatment room, was a painful struggle when paying attention to staff meetings, accounts, collections, and overhead. I simply traveled too much to be effectively immersed in the business of the clinic, so I decided to sell the big bustling practice and focus more on teaching.

The recent associate had been there for two years and everyone liked her. She was good with patients, knew the frequency protocols, and seemed like a good manager. I would continue to work in the clinic, and we would basically just switch roles. We drew up the contracts in late 2006 and waited for her funding to come through for the small down payment. By March 2007 we were still waiting when something happened that changed everything.

There was this warm feeling in my chest when I walked up the stairs to my bedroom on Friday morning—no pain or shortness of breath, just warmth. I shrugged it off and went back to working on slides for the next seminar. It happened again a few hours later when I walked upstairs after checking with the seminar staff in the downstairs office near the family room. When it happened again a few hours after that, I thought maybe my chest might have felt a little tight, but shrugged it off again and went soundly to sleep.

Saturday morning I woke up with the deep fatigue that had been eliminated by the stent three years earlier. Intuition and reluctant recognition kicked in and I decided it was time for a homemade stress test. I climbed on the well-used StairMaster in the living room, and after thirty seconds the breathless crushing chest pain let me know the stent had clogged up. I called the cardiologist on call and listened as he told me that I needed to come in to the hospital for an angiogram as soon as he could find my chart.

"What happens if the angiogram shows the stent is blocked?"

He replied, "Well you're allergic to the anticlotting drugs, so we can't put in another stent. We'll have to open up your chest and do bypass surgery."

There was an advantage to knowing that most hospital fatalities happen on weekends. There was absolutely no way I was going to let a young cardiologist with the weekend cardiac cath lab crew do my angiogram on a Sunday. I sat still on the couch all weekend watching funny movies with George, running the frequencies to reduce inflammation in the heart, and took aspirin and huge doses of the arginine supplement that helps blood vessels dilate.

Sunday afternoon I called the associate who was going to purchase the practice, and when she said she was in the fast lane on I-5 driving back from California, I suggested that she move over into the slow lane. After a brief but vivid explanation of the situation, we agreed that she might want to sign the paperwork for the practice sale on Monday. If anything went wrong during the surgery, things could get very complicated.

Monday morning arrived, and sixteen years as a pharmaceutical rep came in handy when the cardiology office receptionist said, "Oh, yes, you have an appointment in two weeks." I replied, "No, this can't wait that long. You have a slot this afternoon at 2:30 for an emergency patient, and I am going to be that emergency patient." She put me on hold for a few seconds and came back to say, "Dr. Strelich will see you at 2:30."

When the seminar manager dropped me off at the clinic to sign the practice sale paperwork, I could walk thirty seconds before the breathless pain started, and had to rest twice between handicapped parking and the front desk. We signed the papers, had them witnessed, and the next stop was the cardiologist's office. When I told Dr. Strelich about my homemade stress test and weekend hospital avoidance strategy, she laughed and admitted that she would have done the same thing. The EKG was normal, but the angiogram showed blood getting through the stent drop by drop, even though every other vessel was clear. They were going to bypass the single widow-maker blockage on Wednesday by taking a small artery from inside my chest wall and diverting it over to the heart to bypass the clogged artery. Her second-favorite surgeon was available that day, and he turned out to have published the first

paper on that particular type of bypass thirty-nine years earlier. I was in very good hands.

The eight-hour surgery went well, and when I woke up in intensive care on a ventilator, my two adult children stood hugging each other across the room. When next I awoke, George was reading quietly in a chair next to my hospital bed, holding the fingers of my left hand softly in his right. When I opened my eyes again three hours later, he was still holding my hand. The surgeon wouldn't let me use microcurrent in the hospital, and the four-hour new-injury magic window was long gone by the time I went home on Saturday.

The frequencies made the bruising disappear in days instead of weeks, repaired the fractured sternum in record time, and put me soundly to sleep for over an hour when I used the frequencies "to remove trauma in the heart." The recovery was not uneventful; fluid from the chest wall collapsed my left lung and gave me pneumonia. The wonderful radiologist drained 600 cc of fluid out of my chest to relieve the pressure twice in two weeks, and antibiotics cleared the pneumonia. Twelve weeks and many hours of microcurrent later, I taught a seminar in Portland. One year later my EKG was completely normal.

And ten weeks earlier, two weeks after the surgery, when I was still sleeping in a hospital bed in the living room, the kindly, grandmotherly, sweet church-going seminar manager started stealing machines from inventory and selling them on the side. By June the cash flow and debt to keep the business running didn't make sense, and finally intuition did the math. By October she was gone, the new seminar manager audited the missing inventory, and by the following year the grandmother spent six months in jail. And life went on.

There was much more to do.

Mary Ellen Chalmers, a doctor of medicine in dentistry, took the course in 2006 and started using FSM in her practice. She announced during her lecture at the 2007 FSM Advanced Course that 40 hertz, the frequency to reduce inflammation, reduces inflammation so effectively that hidden infections could accelerate during the following anti-inflammatory hours. Many dental infections are hidden in the bone or the sinuses and masquerade as dental inflammation in the gums or mouth. The 2007 take-home message was, "Be careful when you use 40 hertz."

Her 2008 take home message was, "Use 40 hertz to uncover deep-seated hidden infections by reducing inflammation. FSM is the only treatment that can reduce inflammation quickly enough to make this happen. Be prepared to treat the infection if you find it and recognize that finding it is a good thing. Reducing the inflammation, finding and then treating the infection is the only way these patients will recover from the hidden infections. The next eight years proved her right. If 40 hertz increases anyone's pain either during the

treatment or in the few hours after treatment, there is without a doubt an infection present. It's diagnostic.

Mary Ellen became my dentist in 2008 and saved my life. Chronic inflammation caused my heart blockage. My right hip was replaced in 2008 and my left hip was replaced in 2009. I had no risk factors, a pristine diet, and exercised regularly; something else had to be wrong. She was determined to find the source of inflammation, and infection was the prime suspect. Quiet certainty rather than any sort of common sense told me to transfer my dental care from Portland to her office in Santa Rosa, California. In 2008, she did a genetic test that showed I was sensitive to gluten. A gluten-free diet reduced my joint pain, but my immune system was still convinced my thyroid was a foreign body. Antithyroid antibodies mean that the immune system is on alert and confused at the same time since it is convinced that your thyroid and its hormones belong to somebody else. This immune system activation doesn't come from space. Something was causing it, and she was determined to find it.

A standard CT scan at Stanford University in December 2008 to look for a jaw infection under my seven root canals was negative. She knew something had to be there and sent me for a special high-resolution 3-D cone beam CT scan in March 2009. And there it was. The bone under those seven root canals in the back half of both sides of my upper and lower jaw was infected and dead. The quiet certainty was confirmed.

How do you do that? How do you find the quiet certainty? How do you train it? How do you learn how to feel for it? It's resonance, and it will change and maybe save your life.

When you're using frequencies, that training happens every day. The sock-puppet voice at your shoulder suggesting the resonant choice is your trainer. You listen and choose and learn to feel what it's like when the voice is correct. You learn discernment and what it feels like when the choice is wrong. You feel it and learn from it hundreds of times every day.

In life outside the clinic, in your daily life, the training is less consistent and more subtle. The sock puppet may send you an image of your favorite aunt. Instead of ignoring the image, call your aunt just to say hi. Learn what it feels like when it turns out that she really needed you to call. Slow down enough that you can feel the urge to turn right at the stoplight and pull into a store you haven't visited for years to find the perfect item to fill a need—a sweater, a vase, a painting, a kitchen appliance, a child's toy, whatever. Learn what it feels like when the intuitive image is correct. Learn what it feels like when it's just a store with nothing special and your aunt is just fine. That image isn't going to be right all of the time. It feels different when it's not tuned perfectly.

That's how you train your intuition. Say yes. Don't bet the farm but say yes to that image often enough that you learn what it feels like when it resonates and leads you to a better choice. Quiet certainty will follow.

Six jaw surgeries in the next seven years removed seven root-canal teeth and pus-filled dead bone, and another three surgeries installed implants once the bone grafts healed. The infection ate upward through the floor of the sinuses, so there were antibiotics from the oral surgeon and the doctor for five years to get rid of the chronic sinus infection. When the last surgery removed the last inch of infected bone, the antithyroid antibodies went away, and so did the need for thyroid replacement therapy.

Jaw surgeries and hip replacements sound pretty horrible, but using FSM immediately after each surgery meant no pain, no swelling, and no bruising. The four-hour new-injury treatment window is close to magic when it comes to postoperative healing. There is a frequency on the list to "stop bleeding" and prevent bruising. There are frequencies to remove the effects of the trauma to each of the injured tissues and stop inflammation. The surgeries became routine and uneventful. A little nap after the jaw surgeries, a few Advil, a few days of a soft-food diet, and it was done. I didn't bruise after my hip replacements, and I was walking up the stairs after a few days, and six weeks of physical therapy had me back to normal. Mary Ellen developed a surgical systemic protocol to run during jaw surgeries that used frequencies to support the adrenals, to help the liver clear the anesthesia and drugs, to support the immune system, and to calm the nervous system. The protocol means that you wake up feeling pretty normal instead of feeling as if you have been run over by a truck.

When she treated patients who owned racehorses, they took FSM to the track, and Rachel Alexandra and Curlin, two of the top thoroughbreds in U.S. history, are both four-legged FSM patients.

Then Mary Ellen did what we couldn't do with the medical uses of FSM. She patented the effects of specific frequencies in dentistry. Medical procedures cannot be patented, but there is an exclusion for dental procedures. U.S. patent 8,909,346B2 was granted on December 9, 2014, for Frequency Specific Microcurrent for dental indications. Pain-free speedy progress with orthodontic braces, osteonecrosis (bone infection), oral surgery healing, dental-anxiety patients, and the concussion protocol are incredibly effective and are now patented FSM dental applications. And her new functional medicine program for dentists makes the mouth a part of whole-person health strategies to support what the frequencies do. Talk about following your passion and putting feet on your dreams.

That's how you *do* that. You show up. Follow your passion and put feet on your dreams even when the feet wear baby shoes. Not every step is a giant

step. You can share your truth and still be prudent. You can say yes to the small urges of intuition that guide the small steps along the path and still go to work and do the laundry. You can make disastrous mistakes and learn and begin again with new skills.

Remove the interference between your heart's desire and your ability to hear it. When there are two tuned violins in a room and you bow the G string on one, the G string on the other will automatically hum in resonance, unless there is a weight on it. Remove the weight from the string and the resonance makes it sing. What's the weight on your heartstring? How do you remove it? How do you do that?

1. Practice love and gratitude. You attract into your life what you focus on, and you attract more of what you are grateful for. It's so easy to get locked into dark resentment and disappointment from our day-to-day struggles. We have all been there. But it feels like a weight between you and your heartstring. Removing the weight can be a real struggle, or it can be as easy as turning your head. The brain inflammation from the neurotoxic black mold in the clinic made me negative, irritable, and depressed. It didn't feel like me, and it didn't feel good, but I didn't know how to change the pattern.

On the way to Australia to deliver the microcurrent machines to HealthWorld in 2002, George gave me a book called *Messages from Water.* [6] In that book, Masuro Emoto showed pictures of the crystals formed when water was stored in vials with different words written on the label. The most beautiful spectacular crystal came from a vial marked "Love and Gratitude." When I started to repeat that phrase and remind myself minute by minute whom I loved and what I was grateful for, everything changed. Turning my head toward love and gratitude changed my mind and made room for resonance. Just to be on the safe side, we wrote the words "Love and Gratitude" on the outside of the glass water cooler in the clinic hallway.

Make a list sometime of the things you're grateful for that you don't even know you appreciate. Its length once you start will surprise you. Sliced bread. Flush toilets. Clean water. The internet. Gas stations. Cupcakes. Licorice. Vitamin C. Puppies. Horses. Velcro. Dishwashers. Toothbrushes. Kale salad. Cinnamon. Cinnamon rolls. Crayons. Erasers. Spackle. Once you get the picture, it's kind of fun. When you make your list, notice how you feel.

Pleasant positive thoughts become habits of mind by practice, and their use actually changes brain function and even structure in positive ways. It wasn't possible to tell myself "Don't be irritable and negative." You can't erase a negative with a negative. But it was possible to force myself to read or recite an alphabetical list of positive words to create a positive habit of mind and replace the negative thoughts. Here's a partial list to give you an idea of how it works.

• A: alive, aligned, alert, assisted, angelic, amused, agreeable, amazing

• B: buoyant, blessed, bright, brilliant, bubbly, bliss

• C: cherish, cherished, clarity, cheery, colorful, calm, clever, charming, contented

The list goes from A through Z and ends with *zounds, zing,* and *zoom.*

This practice, Alphabetical Attitude Exercises, became part of the take-home treatments for pain and trauma patients. The positive words were exercises to change the brain, the way physical exercises strengthened the muscles. The frequencies for specific emotions and nervous system recovery could change negative emotions temporarily, but there had to be a way to remove the weight from the heartstrings or the resonance would die out. The entire list and its instructions are in the appendix .

2. Learn to be still inside. The soft urgings of intuition are quiet and easily overpowered by noisy internal dialogue. Practice by just being still and silent for a few seconds at a time every day. Formal meditation is a longer version of gazing at a flower for a few seconds and appreciating its beauty. I've tried but I just don't have the patience or the schedule that allows me to sit and meditate for hours at a time. But I can be still for moments and focus on the leaves outside my window. Be still, and wait for the answer, and know that it will come when the time is right. You can't rush resonance; well, you can, but it doesn't usually work out well. Sometimes we just feel the need to do something, so we try something out to see how it goes. That's fine for grocery shopping and choosing wallpaper, but it isn't the same for important "follow you heart's desire" life decisions.

3. Recognize that there are no mistakes. Really. There are lessons and outcomes. You do this, and that happens. Outcomes can teach you what to do or not do the next time you have to make that or a similar choice. Train instructors, and they leave. Do it differently the next time. Train a different instructor, and she stays and changes her world. Hire staff, and some work out, and some don't. Learn what to look for the next time. Mistakes can make you feel stupid and guilty, but outcomes are just lessons. There will always be a lesson to be learned from every experience, and there isn't any profit in resenting experiences that are inconvenient in either impact or timing. Inconvenient is a very good word when it comes to providing perspective.

4. What you need will always show up, but it may not look like what you thought it would look like. Be willing to look for the gift in an unexpected wrapping. The divorce from Ben led to meeting George. Divorce is never pleasant, and it certainly wasn't convenient, but meeting George led to developing FSM and discovering the power of resonance. Think of all of the people who would still be in pain if I hadn't met George. Three years of

chronic pain, canes, and wheelchairs in airports before my hip replacements taught compassion in a way nothing else could have. Preparing for the hip surgeries with ten months of physical therapy taught lessons about "prehab" and rehab in a way that nothing else could have. It was what I needed to learn in the only way I could have learned it, but I never would have guessed that at the time. The lesson usually becomes apparent only in retrospect.

5. Surround yourself with talented, smart, and harmonious people. Find and follow friends who support you and your journey and whose journey you can support. Do what you are called to do and expect others to do the same for themselves. Everyone will be following their own path for their own reasons. Let them. My mother had a saying: "It has to work for everyone, or it doesn't work." You can learn to choose compatible and kind colleagues and companions who create win-win solutions. Your friends can inspire you to follow your inner guidance and say yes to your calling, and you can do the same for them. Pay attention to how you feel when you are with certain people. Do you bring out the best in each other? Even in difficult times of grief or sadness, do you feel better or worse for having been with them? Are their heartstrings tuned to the same note as yours? Do you help each other to do what each of you came into this life to do?

Be prepared to find out that not every friend enjoys your success and fulfillment. For some it will be a threat and a reminder of their own insecurities. Subtle sabotage can come from unexpected quarters when you achieve something special or create something good in your world. If that happens, you can only tune in to the harmony of your own heart song, remove the weight of grief and loss from the heartstrings, and be grateful for the good times. And move on.

The frequencies helped with all of this. There are frequency protocols to heal the brain, quiet stress, and balance emotions; frequency protocols to repair injuries and improve health. Something as simple as treating sunburn can make the day more pleasant. And it was a good thing, because there was much more to do.

8.

More than Frequencies

Have you ever thought about courage? There are all kinds of courage. The fierce determination of a soldier conquering fear in his own way before going into battle and the courage it takes to get out of bed at the beginning of another day of searing pain and exhaustion are roughly similar.

Think about the last time you felt courageous. If courage were a sound, what note would it be? If joy is a flute, lilting and sweet, and fear is a tremulous high-pitched violin, what sound is courage? Courage might be a deep solid tone like a timpani. When you think of emotions as sounds you can begin to envision them as patterns of tone and not just an experience of feelings. Is courage the absence of fear? Or can courage simply arise when the fear fades and the road ahead comes into view and leads to the first step of those that will follow? How do you manage to make the fear fade? Everyone does it differently, but I think it happens when you resonate with the step you must take. When the tremulous sound of fear fades in front of the deep drumbeat that propels your step, that's courage. There is a reason that ancient armies marched into battle with the pounding vibration of drums felt to the bone.

There are frequencies on the list to neutralize what we think of as uncomfortable or unpleasant emotions. Van Gelder's list put the frequency 970 hertz on channel A and the frequency for the organ associated with that emotion in Chinese medicine on channel B. After years of use, experience suggests that these frequencies are exactly correct.

There is no way to measure emotions, so these frequencies will never have data to confirm the effects. But consider the following stories and come to your own conclusions.

The patient was a skilled and charming local lawyer who came in two or three times a year for knee and lower-back pain. His lower back pain was always caused by the posterior joints in his back, the facet joints, and knots in the muscles. But this time nothing helped. The lower back muscles were like bricks and nothing softened them.

"How much water have you had?" Patients had to be hydrated for the frequencies to work.

“One quart in the last two hours as directed, ma’am.”

Nothing was working, but when my eyes rested on the laminated frequency sheet, the emotional frequencies stood out as if in bold print. Nothing else was working; it was worth a try.

I tried 970/35, the frequency for anger, but it didn’t soften his back muscles at all. The frequency for the liver is 35 hertz, and the liver is the organ associated with anger in Chinese medicine. So 970 hertz on channel A and 35Hz hertz on channel B, 970/35, was the frequency to neutralize anger. If the frequency response could be trusted, he wasn’t angry, or at least anger wasn’t making his back muscles tight.

I tried 970/27, the frequency for deep gripping fear. The frequency for the colon is 27 hertz, and the colon is linked to fear or terror in Chinese medicine. The muscles in his lower back began to soften. He said the graphite glove on his back felt warm and the pain was less. Down the list, the frequencies for hurt feelings, 970/37, stood out and softened the muscles further. To neutralize hurt feelings Van Gelder combined 970 hertz on channel A and 37 hertz the frequency for the bladder on channel B, because the bladder is associated with hurt feelings in Chinese medicine. And then grief stood out, 970/17. The frequency for the lung is 17 hertz, and the lung is associated with grief in Chinese medicine. The muscles softened even more. The frequency response was telling a story.

“So, Jim—how’s your life? How are things going at home?”

“You mean besides the fact that my marriage is in the toilet? Why did you ask?”

“I asked because the only frequencies that softened your back muscles today were the ones for hurt feelings, grief, and fear.”

He replied quietly, “Yeah, that about covers it.”

“If it’s any comfort, there wasn’t any anger.”

“No, I’m not angry, just hurt and sad and afraid of it coming apart after eighteen years.”

As a matter of coincidence, he also had chronic pancreatitis, and the frequencies associated with the pancreas, 970/9, were for “life has lost its sweetness.” We ran the concussion protocol, which treats the nervous system and a part of the brain called the medulla for any sort of physical or emotional trauma. The concussion protocol seems to reset the nervous system, and Van Gelder used it as a foundation for stabilizing the nervous system, the brain, and even the immune system. We finished up by using frequencies for the relevant emotions again, and when he left, his back was pain-free. His marriage didn’t come apart, and his back improved.

He came back the next year to be treated for knee pain and mentioned in passing that he was going to need surgery to remove his inflamed and calcified pancreas and reroute his digestive system in a horrific surgery called a Whipple procedure. I treated his knee that day with one machine using my hands and used a second machine to run the frequencies for removing inflammation, chronic inflammation, and calcifications in the pancreas. I moved my practice to the other side of town a few months later and didn't find out for five years that the pancreatitis resolved, the calcifications went away, and he never had the surgery.

His case might have been a coincidence, but subsequent case reports of acute and chronic pancreatitis from multiple FSM practitioners suggest that it is predictably treatable. In order to do a collected case report or any sort of reasonable study on a condition like acute or chronic pancreatitis, you need access to a large pool of patients who have the condition. I was at a medical meeting a few years ago when I met a physician who treats chronic pancreatitis as his specialty in a clinic devoted solely that condition. I told him about some of our success stories, showed him the mouse anti-inflammatory research and the cytokine data, offered to give him a machine for free and train his staff to use it, if he would do a trial on some of his patients. He made polite noises, looked nervous, and avoided even eye contact with me for the rest of the weekend. They either get it or they don't. Eventually, someone will be willing to do the research. So far, pancreatitis is just not that hard to treat.

If you think about how emotions affect your body, the impact of the emotional frequencies makes sense. Emotions are patterns that affect cell receptors in every single body tissue. The *molecules of emotion* are the chemical neurotransmitters that create the body experience of emotions, and there are receptors for every single neurotransmitter associated with those emotional states on every single cell in the immune system and digestive system.[1] Bruce Lipton says in *The Biology of Belief* [2] that the emotions themselves can affect cell membrane receptors directly and alter cell function through resonance. Finally, after forty years of research, medicine agrees that emotions affect health.

Every condition has an emotional component but not every patient is willing or able to address emotions directly. If life has lost its sweetness, perhaps pancreatitis is the result. If you are afraid to step forward into your life, perhaps your hamstrings will get injured. But most physicians aren't therapists, and most patients don't go to a therapist when they have pancreatitis or a hamstring injury.

Fortunately for us, there are frequencies to help with this conundrum. Emotions are rarely singular or simple and are almost always combined as one leads to another. Multiple frequencies on the list are usually used together.

Some conditions simply cannot be treated without using the frequencies for emotions. Football players and elite athletes don't willingly discuss uncomfortable emotions, and most deny their existence when asked. Using the emotional frequencies is easy. Thinking about the fact that you need to use them is the only tricky part.

When is a hamstring injury not a hamstring injury? Hamstring injuries are easy to fix—really. When your star player has repeated hamstring injuries that should heal easily but don't respond to treatment, it raises some questions about what physical component you're missing. When the player keeps getting into verbal brawls with fellow players, coaching staff, and the press, it suggests that the missing component might not be physical.

Table 8.1. Emotional factors

Condition	Frequencies (Tissue)
nervous tension	94/200 (solar plexus)
emotional tension	970/200 (solar plexus)
anger, aggression	970/35 (liver)
fear, terror, defensiveness	970/27 (colon)
fear, fixed ideas, over sensitivity	970/23 (kidney)
frustration	970/71 (adrenals)
grief	970/17 (lung)
guilt, resentment	970/38 (gall bladder)
hurt feelings	970/37 (bladder)
shame, can't get it together	970/355 (skin)
irrational thought	970/90 (forebrain)
mental tension	970/562 (sympathetics)
worry, over sensitivity	970/13 (lymphatics)

loneliness, female	970/34 (uterus)
loneliness, male	970/5 (prostate)
loss of harmony, life has lost sweetness	970/9 (pancreas)
anxiety, worry, ruminating	970/32 (stomach)
abandonment, feeling lost	970/22 (small intestine)
restore joy	970/33 (heart)

The FSM practitioner treating this injured player set him up exactly the same way she always did to treat his hamstrings. She put one graphite-conducting glove wrapped in a warm wet towel across his lower back and the other contact in a warm wet towel wrapped around his knees. Only this time, she treated his hamstrings for ninety minutes of the two-hour treatment with emotional frequencies. Fear, 970/27 (colon), and worry 970/23 (kidney), perhaps helped neutralize the fear of failure or injury. Hurt feelings, 970/37 (bladder), anger, 970/35, and resentment, 970/38 (gall bladder), might have lightened the emotional impact of his team and press interactions. We'll never know what did it, because you don't have to talk about the emotions; you just use the frequencies to neutralize the patterns they leave in your body.

The frequencies make you think about how emotions layer over each other. Fear is behind anger; worry is often behind fear and mental tension, and sympathetic fight-or-flight stress makes everything more intense and worse. We do know his hamstrings recovered, and he stopped fighting and started getting along with everyone for as long as she was treating him like this.

When we started treating emotions, we ended up treating the brain because the two so often went together. Emotional issues interfered with brain function, and brain injuries caused emotional distress. Van Gelder's frequency list had frequencies for the five major areas of the brain and other parts of the nervous system. The real question was whether the frequencies would work. The same strategy we used when treating every other tissue applied to treating the nervous system. Use the frequency to remove the pathology causing tissue dysfunction on channel A and the frequency to target a particular tissue on channel B.

We already knew we could remove inflammation from the spinal cord using 40/10. The frequencies could change cytokine inflammation and reduce pain dramatically in fibromyalgia patients with spinal cord inflammation. We

already knew that treating with Van Gelder's unconventional "Concussion Protocol" dramatically and profoundly changed how people felt and functioned even in the absence of anything remotely close to a medical concussion. Over time and with experience we found out what happened when you treated the brain.

Our experience started out with the concussion protocol. In the first few years, when George guided the treatment strategies, he always used the concussion protocol first because treating the medulla and the pituitary was so important to his mentor Harry van Gelder. The medulla is part of the brainstem. It regulates all basic body functions, including the immune and digestive systems through the cranial nerves that start in the medulla. That was the simple-sounding theory.

Table 8.2. Channel B: Nervous system tissues

Tissue	Frequency
forebrain	90
sensory/motor cortex	92
hindbrain	84
medulla	94
midbrain	89
nervous system tissue	45
parasympathetic nervous system	709, 3
pineal	102
sympathetic nervous system	562, 6
solar nerve plexus	200
spinal cord	10

Table 8.3. The basic concussion protocol

Condition	Frequencies
reduce nervous tension	94/200
reduce emotional tension	970/200
treat the basics/medulla	94, 321, 9, 49/94
treat the basics/pituitary	94, 321, 9, 49/310
support pituitary secretion	81/310
constitutional or genetic factors	6.8/38
vitality, female or male	49/37 female; 49/39 male
balance energy centers	35/102

In practice the results of running the concussion protocol turned out to be transformational and mystifying. The patient would come in looking emotionally strained, complaining of mild pain at 4 out of 10 and describing feeling out-of-sorts. After twenty-eight minutes of the concussion protocol, they were smiling and relaxed, with rosy cheeks, and clear thoughts. The pain protocols worked easily and quickly after that to make them comfortable.

The NIH data showed serotonin doubling in those twenty-eight minutes, but everyone suspects there is more to it than that. People with true concussions improve dramatically. Headaches disappear, phone numbers can be remembered, words can be found, and bank statements can be balanced. These improvements gave us the idea that frequencies might be able to treat the brain. It certainly couldn't hurt, since no other treatments seemed to work for brain-injury patients.

The Mid Brain

Kaiser Pain Clinic was pretty desperate when they sent Toby to be treated for thalamic pain syndrome. Also called central pain, it is the most difficult and feared consequence of a stroke, causing excruciating unremitting pain. It has never been successfully treated.

Curly sandy-brown hair framed Toby's smiling pleasant face, and the mildly vacant expression and slow speech were consistent with his stroke

history.

"I had a hemorrhagic stroke when I was twenty-seven, and they missed it in the emergency room and sent me home, so I won this malpractice suit against the hospital. It's been kind of nice, actually, except for the pain. I wasn't very nice before. I was always angry but now I'm always nice."

His mom came with him and filled in the details. The month-long coma and dozens of seizures that preceded the two years of rehab for his paralyzed left side and explained the brace on his left foot. When he was thirty-five, the right-side body pain started, and even with 150 mg of methadone, his pain diagram showed 7 out of 10 pain from the top of his head down the right side of his body to the bottom of his right foot. A daytime caregiver cooked meals and took him to the grocery store and pharmacy, but his mom always came with him to doctor's appointments.

I had never treated thalamic pain before, and given its reputation, there was no reason to expect that treatment would be successful. I told Toby and his mom that FSM was not likely to help, but we could give it a try. Everyone knows about thalamic pain, so they weren't surprised at my lack of confidence.

The thalamus is located in the midbrain, and that frequency was listed as 89 hertz. Intuition and experience more than certainty suggested 40 hertz as the channel A frequency, since it had worked when combined with the spinal cord for fibromyalgia. We set Toby up with one contact at his neck and the other on his painful foot. When the frequencies started running, his neck muscles softened a bit, and he drifted into a quiet doze. It was encouraging but still not convincing. After thirty minutes I asked him about his headache.

His tone was almost quizzical when he said, "I believe it's gone."

"It's what?"

"It's gone. My head doesn't hurt."

"How about your leg and your foot?"

"They don't hurt either. My pain is gone."

Once I recovered from the shock, it seemed reasonable to try to repair the damage to the thalamus that was causing the pain. The next thirty minutes sped by as he fell asleep again when I used frequencies from the list that might help a stroke-damaged brain. Trauma, chronic inflammation, calcium, and scarring all came to mind. The pain was gone for twenty-four hours, and when he returned for the second treatment, the right-sided pain was rated 6 out of 10. The quizzical look returned thirty minutes later when his pain went to 0 again. This time the pain was gone for two days. Each time he was treated, the relief was more long-lasting, and eventually the pain stayed down around 4 out of 10 for most of a week. He became the clinic's favorite pro

bono patient and ended up being treated once a week until we gifted him with the first AutoCare unit that came from the manufacturer. Toby's program for central pain was the fourth on the list of thirty protocols the machine would run, and it meant he could treat himself at home.

It seemed as if brain and spinal cord injuries started walking in the door on a pretty regular basis after that. Each case was different, and each case taught us more about what we could and should not do. You can't put tissue back that is not there, but apparently you can improve the remaining tissue and improve patient symptoms. There was a frequency list but no instructions for how to use it for brain injuries. Even after hundreds of patients, each new case had to be approached with careful thought and a feel for the quiet voice of informed intuition.

The midbrain, so helpful for Toby's pain, is also the home of the amygdala, the seat of primitive emotion, and the hippocampus, the seat of memory. But you couldn't treat one part of the midbrain without treating all three parts. We knew that 40 hertz would quiet inflammation and reduce pain and anxiety. We found out by accident that 81 hertz to increase secretions combined with 89 hertz for the midbrain would increase anxiety when one of the student preceptors left the treatment room to take a phone call while running that frequency combination. The patient started yelling for help a few minutes later, in a panic, and I bolted down the hall to her treatment room to calm her down. I looked at the frequencies and knew immediately what had happened, and then had an idea about how to fix it. She was wide-eyed and anxious but agreed to sit for just a minute while I reversed the anxiety effect by running 40/89. If 81/89 increased anxiety-making secretions, then 40/89 should quiet them. She calmed down, and I added the frequencies to quiet the sympathetic fight-or-flight nerves (40/562). She recovered quickly, and in a few minutes the episode was a dim memory. Explaining the cause and the cure to the embarrassed student actually made sense to the patient and helped settle everyone, including me.

The Cerebellum

If 81 hertz could change midbrain function that quickly, you had to wonder what it could do when used with other parts of the brain. We had a chance to find out when we started repairing shoulder injuries. Repairing the muscles and nerves in a complicated joint like the shoulder after a fracture or a surgical repair was just the beginning of rehabilitation and recovery. The experts at New Heights Physical Therapy did a particular type of sophisticated exercise rehab combined with manual therapy they learned at the Ola

Grimsby Institute in San Diego. The gentle exercises done with small weights on special pulley systems never hurt even my most complicated patients, and they were perfect for shoulder rehab. Once the muscles were repaired and strengthened, they still had to fire in precisely the right order at precisely the right time, and everything was coordinated by the cerebellum.

The physical therapists had worked for almost a year to rehab a patient after a complicated shoulder fracture. A plate and eight screws held the bone pieces in place, and one year after the fracture, everything was healed. The exercises strengthened the muscles, and FSM dissolved the scar tissue, so passive movement was quite comfortable. But the muscles wouldn't actively fire in the right order, so raising her arm over head was uncomfortable.

No exercise or manual strategy we tried could make the muscles coordinate in the right sequence. The patient always exercised with microcurrent leads attached to wet fabric wraps around the neck and wrist of the injured arm. As we stood there watching the frustrating uncoordinated movement, it suddenly occurred to me that we had a frequency for the cerebellum, and we had a frequency to increase its secretions. The sock-puppet voice of intuition in my ear wondered if it would work when I reached over and changed the frequencies to 81 hertz on channel A and 84 hertz on channel B, to "increase secretions in the cerebellum." In seconds, there was an astounding change of movement. The lower muscles stabilized the shoulder blade in perfect timing, and the upper muscles relaxed so those that raised the arm could raise it comfortably. Everyone in the gym stopped to watch. Even the patient noticed the strong, coordinated, and easier movement. After five minutes we could turn the machine off, and the pattern was permanent.

But after such a long disability, it was as if the part of her brain that knew where her shoulder was in space couldn't find it. She had an odd, slightly confused look on her face once the movement stopped, as if she wasn't quite sure how to begin it again. As she started to move her shoulder again, it occurred to me that we had a frequency for the sensory cortex, the part of the brain that could sense where her shoulder was so that she could move it. My finger reached out and changed the frequencies to 81 hertz on channel A and 92 hertz on channel B, to "increase secretions in the sensory cortex." The patient had no way to know what frequencies were running, but the confused look disappeared and the movement became confident, fluid, and completely coordinated in seconds. It was hard to believe, but it was the first of many similar cases that followed.

A few years later we had the chance to put all this experience to work when I treated Ben Katholi in our booth at a Physical Medicine and Rehabilitation meeting. The scar tissue causing mild chronic pain in his elbow was easy to fix, so he brought his more difficult chronic foot injury to the booth the next

day, and it turned out to be equally easy to fix. Scarring in the nerve, the fascia, and the periosteum and a little bit of a nudge with the frequencies for the joint capsule and cartilage, and it was done. It's just not that hard.

He took the three-day FSM Core Seminar in Hartford the next year, bought a machine, and took it back to his office at the Cleveland Clinic Children's Hospital Rehabilitation Center. After a few months, people started asking what he was doing differently, and a few months after that the department scheduled an FSM Core Seminar for January.

The word spread fast, and fifteen physicians, physical therapists, and occupational therapists spent three days learning this new technique. Rehab people are very pragmatic. If it worked, they would learn it, try it, and figure out how to use it to get their patients better. Their outcomes made an impression, and the next January we had the rest of the team in the class, and the contagious enthusiasm spread. We spent Monday and Tuesday in the outpatient clinic after each seminar treating children for brain, nerve, and spinal cord injuries. You'll have to imagine for yourself the long lineup of small wheelchairs designed for children younger than four in the cheery bright hallway outside the physical-therapy department. I swallowed the lump in my throat and kept following the group to the integrative medicine center downstairs.

Cerebral Palsy

The patient was bright, sturdy, and not quite pediatric at twenty-two, but he stayed with the department because he had mild cerebral palsy. His upper body was normal, but his thigh muscles were rigidly spastic, and his legs turned in at the knees, making walking difficult. The oral meds help but don't work very well even when expertly used, and it's hard to use enough botulinum toxin (Botox) to paralyze and relax that many large muscles.

The frequency combination that relaxed the right-side spastic spine muscles in the army captain came to mind: 81 hertz on channel A and 10 hertz on channel B to "increase secretions in the spinal cord" relaxed the captain's back muscles. The same frequency combination also relaxed rigid, almost spastic thigh muscles for two patients with mild spinal-cord injuries from disc herniation, called myelopathies. The normal flexible muscle tone we feel in our legs depends on constant signals coming down the spinal cord called descending inhibitory impulses, which descend from the brain and inhibit the rigid contractions of spasticity.

I wondered if "increasing secretions in the spinal cord" would enhance these descending impulses to reduce spasticity the same way in this patient?

On the other hand, cerebral palsy is caused by injury to the part of the brain that produces those inhibitory impulses, so maybe it wouldn't work? Intuition and quiet certainty were silent, drowned out by these conflicting ideas. I didn't see any way 81/10 was going to work, but there was one way to find out. We set him up with contacts around his neck and ankles as he lay on the treatment table, gazing up at the ceiling, and started the microcurrent running. Within a few minutes the inner thigh muscles, the adductors, started to soften, and the bright chatty redhead stopped making bad puns and closed his eyes. The adductor muscles softened from the knees upward just the way they did with the spinal cord myelopathy patients.

Sixty minutes later his leg muscles were totally normal, but when he stood up, he had no idea how to walk. He held on to the treatment table for balance, and we switched the frequencies to increase secretions in the cerebellum (81/84) to coordinate the movement while he did toe raises in place, and then started walking down the hallway, while we followed him, carrying the machine. His unsteady gait wasn't perfect, but it also wasn't spastic. Then we switched to 81/92 to increase secretions in the sensory cortex and encourage it to "find" his feet, feel his new legs, and figure out where to put them. That was a year ago. The results from that first treatment lasted two weeks. He still comes in regularly for treatments because it always helps. Everyone wishes we could see inside his brain to see what is actually happening.

The creative and caring physical therapists and occupational therapists at Cleveland Clinic Children's Hospital are just amazing in their work with children and infants. Bright toys with jingle bells and board games and puzzles become therapeutic in their skilled expert hands. It's amazing to watch them work, and a privilege to watch them use frequencies as a tool that changes everything.

On the Monday after the Core Seminar in January, we treated a sweet, cheerful ten-month-old who couldn't use her right arm, which meant she couldn't crawl or roll over. She was diagnosed with a brachial plexus traction injury from birth trauma. The nerves from the neck go into the arm muscles in a complicated branched cable system called the brachial plexus. When the doctor pulls on the head and neck during a vaginal birth and the shoulder doesn't budge, the nerves can get stretched and then stop working. The nerves don't usually tear; they're just so injured that they can't communicate with the muscles. With luck, they grow back a millimeter at a time, but they can take years to recover, and some never do. The child wasn't fussy, so in this case there was no pain, but the muscles didn't get the signals to make them contract, and she couldn't use her right arm.

Nerve-traction injuries always responded well to FSM, so I figured this was going to be easy. That optimistic assessment changed when my fingers found

the rigid strip of muscles at her neck, making a spastic bar down the right side of her spine, from her neck to her waist to her adductors and to her right foot. It didn't make sense.

I looked at Jessie, the occupational therapist, and said, "Normal muscles don't feel like this. This is from her spinal cord." I turned to her dad and asked about her birth. "What happened during delivery?"

He said, "She got stuck, and the doctor got worried and started pulling really hard on her head and neck."

That gave us a mechanism for the spasticity. Maybe the spinal cord had been tractioned along with the brachial plexus nerves? Jessie set the child up with contacts from one machine clipped to a wet fabric wrap around her neck and wrist. Then we put another set of contacts on her neck and on her right foot. We set 40 hertz to reduce inflammation and 396 hertz to address the nerve on the neck to wrist machine. The second unit ran 81 hertz on channel A with 10 hertz on channel B to increase the secretions in the spinal cord and descending inhibition of spasm between her neck and her foot.

The spasticity started to relax from the bottom up, just the way it did in the other spastic patients. The muscles in the arch of her foot softened, then a few minutes later her calf muscles, then her adductors, and then the spine muscles softened. All this happened in forty-five minutes. The upper neck muscles didn't soften, though. The muscle that runs from the skull to the shoulder, the upper trapezius, was still rigid. That muscle doesn't get signals from the spinal cord. Signals to the upper trapezius come from a cranial nerve called the accessory nerve that starts in the medulla, part of the brain stem. When the accessory nerve is irritated, the upper trapezius gets tight and hikes the shoulder up toward the ear. Using 40/10 doesn't change it because the problem is inflammation (40 hertz) in the medulla (94 hertz). We switched the frequency to 40/94 on the neck-to-foot unit, and the upper trapezius muscle started to soften.

Jessie looked at me and said, "If the medulla had that kind of trauma, we should run the concussion protocol."

She hooked a third machine to the contacts and started the concussion protocol. The babbling girl gazed off into space and stopped playing with the bright jingly toys for twenty-eight minutes while the concussion protocol frequencies relaxed her system.

The shoulder was better, but it still didn't move normally. What was wrong with the nerve besides inflammation? It had been traumatized, 94 hertz, so we tried that. It wasn't working, it was "broken," and we used 124 hertz for that, and 13 hertz worked very nicely to make passive motion easier as it released scar tissue between the nerve and fascia. Everyone was happy with her progress, but she still would not get up on her hands and knees and crawl.

The next month we saw patients for two days again after the team's advanced clinical course, and the baby was back. Dad said she was using her arm more but still wouldn't crawl. The spasticity was gone and the trapezius was quiet, but she still couldn't support her weight on her hands and knees. We watched her movement when she reached for the occupational therapist's bright toys, and it was clear that we had missed another injured nerve.

The long thoracic nerve runs from the lower part of the brachial nerve plexus in the neck down along the side of the ribs to the waist and stimulates the shoulder blade–stabilizing muscle called the serratus anterior. Her serratus wasn't holding the shoulder blade firmly to her body. She couldn't lift her arm or use it to support her weight because the shoulder blade wasn't being anchored by the serratus anterior. Nerves have to be treated from where they start to where they end, in this case from the neck to the waist, not the neck to the wrist as we had done before. Using 40 hertz to reduce inflammation and 396 hertz to treat the nerve with contacts at her neck and waist changed the crucial muscle from flaccid to normal in about twenty minutes. It started to stabilize the shoulder blade. The other frequencies—94 hertz for removing trauma, 124 hertz for being torn, 13 hertz to remove scarring—solidified the improvement. Using 81 hertz to increase secretions between the nerve and the muscle made the muscle do its job and locked down her shoulder blade, but she still wouldn't crawl. Intuition's impatient sock puppet advisor said "C'mon, think! What are you missing?"

Of course! The cerebellum had to coordinate the movement, and her brain had to be able to find this newly functioning muscle. Using 81 hertz and 84 hertz to "increase secretions in the cerebellum"[3] changed the way she moved her shoulder. She could lift her arm over her head now and push on the occupational therapist's hand while lying on her back. The shoulder blade was stable. The serratus was working. Using 81 hertz to increase secretions combined with 92 hertz for the sensory cortex made her really quiet for a few minutes, and when she perked up, it was time to give it try. We unwrapped the contacts, and almost instantly she used her arm to push herself over on her tummy and rocked up on her hands and knees. She rocked a bit and then crawled over to grab her favorite green frog while her dad beamed, eyes glistening.

We saw four nerve and spinal cord traction cases in two days. As we crunched through the snow to the parking lot on Tuesday night, I said to Dr. Katholi, "Boy you guys sure see a lot of nerve-traction injuries."

He stopped abruptly, with an odd and serious look on his face. "But we didn't know that was what we were seeing, because we didn't have a way to treat them. This has changed everything we thought we knew and has made it possible to treat patients who had no hope."

It should be obvious at this point that the frequencies by themselves, randomly applied, or some nonspecific current application could not make these things happen. So many of these particular stories depend on a depth of knowledge and experience in medicine, anatomy, neurology, and muscle function not available to the average practitioner. Working with experts like these and so many others over the years provided a privileged glimpse through the window into what they know. The resonance effects of specific frequencies clarified what we were seeing because the frequencies could change symptoms so quickly. It has been a humbling and fascinating process.

Treating infants and children is usually easy because their innate drive to create life, health, and vitality is so strong. Treating adults is more complicated. The scars and habits of emotional and physical trauma change the way the brain works and create self-perpetuating habits of unhappiness and pain that don't exist in small children.

The most surprising complication of getting people out of pain has been the difficulty they have in adjusting to not being in pain. They have to create a place in their mind and spirit where they can be a person who is not in pain. The parts of the brain that change with chronic pain can be treated with frequencies to change their function. Quieting pain amplification in the midbrain is accomplished simply by running 40 (reduce inflammation)/89 (midbrain) for about ten minutes. The newly pain-free patient stops looking confused and says it feels more normal to be comfortable. Quieting pain sensitization in the brain this way is not part of the medical model, and it is not as obvious or as easy as it sounds. It's not just the brain that needs to change.

All of the patients who were treated with the fibromyalgia from spine trauma 40/10 protocol were out of pain at the end of the sixty- to ninety-minute treatment. Twenty-five percent of these patients dropped out of treatment after three to five sessions, even though all of them were out of pain at the end of each treatment.

I didn't understand why they dropped out until years later. It finally occurred to me that if you have been in pain for fourteen years and your pain goes away in ninety minutes, at the end of those ninety minutes you don't know who you are. There is no place in your experience where you resonate with or connect with yourself as a pain-free, healthy person. The treatment creates an instantaneous identity crisis unparalleled in medicine.

"Who am I if I am not in pain?" is not an easy question to answer when it comes up in a pop quiz. You don't have time to prepare for it. No one warned you that it was even possible. If you had been told it was possible, you wouldn't have believed it.

Your pain goes from 7 to 1 in ninety minutes for the first time in fourteen years. Now, quick, "Who are you?"

As practitioners, we all have a desire to create wellness and comfort for a patient. But if the illness or the pain is, in reality, the only way a patient has power in their life, then it is unreasonable to expect that patient to give up the problem. If you really don't want to go to Aunt Martha's and on that very morning you wake up not feeling well, then you can say, "I had a flare-up today. I can't come." If everyone knows you have recovered, you can't use that excuse. If you have recovered, then you need to give yourself permission to find another reason for not going or find a way to tell Aunt Martha that you simply don't enjoy large gatherings and would love to meet her for tea.

This pattern eventually becomes obvious to the practitioner and usually remains completely unconscious and invisible to the patient. The patients who refuse to identify with themselves as fibromyalgia patients always do better than the patients for whom the illness has become their identity. When a patient says, "I have had fibromyalgia for eighteen years but I am not a fibromyalgia patient. I am going to find a way to get better," you know this patient has a very good chance of recovery. The patient who has no difficulty in finding a diplomatic way of dealing with Aunt Martha's gatherings can more easily create a life without pain. The patients whose identity depends on being the president of the local fibromyalgia support network may be pain-free at the end of every session, but so far none of them have continued enough sessions to recover.

Many patients are understandably offended by this concept and respond by saying, "If I'm responsible for my condition, then I am guilty for creating it." This is an entirely different statement than "If somehow I helped create this, then I can help get rid of it." Many practitioners use the concept of "emotional overlay" or "secondary gain" to blame the patient when the treatment doesn't work. Sometimes it's just the wrong treatment. I have lost count of the patients we couldn't help with FSM because we didn't know enough or because FSM was just not the right treatment. These patients were sent on to other therapies that might work or stopped coming because we couldn't help them. Frequencies are not a panacea.

I have lost count of the number of patients helped with FSM who had been told that their condition was all in their head or just emotional in nature.

Endometriosis and Chronic Pelvic Pain

Just yesterday a thirty-three-year-old woman with endometriosis and a twenty-year history of pelvic pain came to be treated during a small group

Advanced Course. Endometriosis happens when the tissue lining the uterus, which sloughs off during menstrual bleeding, for some reason finds its way into the abdomen. Heavy periods caused severe pain, vomiting, and even fainting from when she was eleven. She was pleasant, sturdy, and stoic as she calmly reported her symptoms to the group of FSM student physicians: pain when she emptied her bladder or had a bowel movement, pain with intercourse, and a constant dull heavy ache in her lower abdomen just above her pubic bone, "like a brick." Two surgeries removed scar tissue from her pelvis, and the second one removed her left ovary and tube because the scar tissue had effectively destroyed them. There was a history of early childhood sexual abuse from age five to age eleven, but no accidents, major illnesses, cancer, or other surgeries. Happily married now, she wanted to be out of pain and to be pregnant.

The well-established FSM treatment for pelvic pain and adhesions first used in 2003 took shape as she settled onto the massage, table wearing yoga pants and a clinic gown. Pressing gently with flat fingers on her abdomen made her wince in spite of practiced self-control and revealed tight and tender bands just inside her abdomen. Stoic patients have to be treated even more carefully because they won't say "ouch" when it hurts. The advanced students watched her face for signs of pain as they checked her abdomen.

Patients with this kind of chronic pain have spinal cord pain pathways that actually enhance the pain, and working on an inflamed and scarred abdomen can cause intolerable discomfort in even the most stoic patient. The frequency to "reduce inflammation in the spinal cord" (40/10) was set up with the contacts at her neck and feet with one machine to reduce pain enhancement, quiet her nervous system, and make the treatment easier. Her life and her suffering created what Van Gelder would have called a concussion even in the absence of any head injuries. The nervous system–soothing "concussion protocol" was set up on a second machine with the contacts placed on her back and upper abdomen.

The third machine was going to deliver frequencies for the pelvic pain and adhesions through contacts on her lower abdomen. The first job was to reduce the inflammation that was causing the pain with 40/116. This was the frequency combination that reduced the swelling in the ears of Australian mice, and in ten minutes her abdomen was much more comfortable, but the tight bands and deep ache remained.

The frequencies for scarring in the connective tissue that turned the gristly scar into a stringy clear liquid during the rat surgical experiment, 13/77, began to soften the tight bands. Press lightly into the tightness; wait for it to soften, and then gently stretch it with finger traction until it's gone. Then find the bands that don't dissolve with that frequency and use 13 hertz combined with

the frequencies for the scarred organs. It was easy to feel the tight bands between the bladder (37 hertz) and the uterus (34 hertz) and the remaining right ovary (7 hertz) and fallopian tube (4 hertz). Any organ that could be scarred appeared to have tight bands running between it and its neighbors. Small intestine, descending colon, sigmoid colon, rectum, and vagina all responded to their specific frequencies.

The fascinated looks of amazement on the faces of the students and the patient as the bands dissolved and the pain decreased were priceless. For the students, it was press, wait while it melted, and then let fingers fall into the well of softness. For the patient, it was pain, then less pain, and then, incomprehensibly, no pain.

Next, the frequencies for old blood clots and the "deep old bruise" characteristic of endometriosis made the brick-like heavy ache in her abdomen disappear. Treatment finished up with the frequency to stop bleeding, 18 hertz on channel A, combined with the frequency for the artery, 62 hertz on channel B, in case the dissolving scar tissue might have pulled on a tiny blood vessel. When we pressed on her abdomen, she said, "I can't tell what it feels like. It doesn't hurt, but it doesn't feel like anything." That is what happens when pain is the only sensation from a certain area. It's as if the patient can't find it because it doesn't hurt. I changed the frequencies without saying anything to her and used the frequencies we used for Toby's thalamic pain, 40 hertz and 89 hertz (midbrain). They ran for a few minutes, and she finally said, "Oh, it doesn't hurt." The treatment took a little more than an hour.

The results of the first treatment are usually permanent even though there may be more to do later. More important, the students will be able to do the same thing for their patients when they return home.

The pain was down when she stood up, but her full bladder called her urgently to the restroom across the hall. She returned to the seminar room with a big smile.

"It didn't hurt to pee. My bladder didn't spasm, and my abdomen doesn't hurt. They always told me the pain was in my head, and they told me I would just have to live with it." It wasn't in her head, ever.

Ninety minutes changed her life, forever. But in truth she had to be ready for it. There had to be a place inside her that resonated with being pain-free. The work she did to recover from the abuse, combined with her sturdy disposition, brought her to a happy marriage and made her say yes to a Saturday session as a model for a class using a therapy her doctor had never heard of.

The most important question is, "What made her say yes?"

Every growth step we take requires an internal state of resonance between how we see ourselves, the new states we desire, and what we're willing to learn in order to achieve those new states.

If I am to be pain-free and healthy, someplace deep inside there has to be an image of me as being pain-free and healthy that will guide my choices, light the path, and resonate more strongly with each improvement. The lock inside called "pain-free and healthy" has to open with a key marked "That's me."

"Who are you if you are not in pain?" is really the same question as "Who are you?" Once the pain, or whatever stands between you and fulfillment, becomes irrelevant to who you are, then you can and will live without it. Or you will find a way to live with it or in spite of it.

The image of being pain-free and healthy will illuminate the fork in the road and lead to a choice that leads to recovery or acceptance. The willingness of patients in pain to try something new, to hope once again, to work toward recovery once again comes from some inconceivable deep vital vibration. The resonance of numerical frequencies can help by changing cells and how they function, by softening emotional turmoil, soothing the nervous system, and reducing pain. The numerical frequencies may remove the interference between your current physical state and your inner vital conviction. The body responds profoundly to frequency effects.

But the resonance effect is not just about frequencies that may make you healthy and more comfortable. Equally powerful and probably more important is the inner vision that lights your path, guides your choices, and speaks to you in quiet moments of intuition.

9.

Using the Resonance Effect

Learning to amplify the sound of your own intuition and tune your hearing to the quiet voice of your inner knowing is something you will learn to do on your own. Using the resonance between your inner vision and quiet intuition to guide your choices will come with practice and intention.

This chapter was supposed to be about how to treat yourself with frequencies using a machine you could purchase without a prescription. But it turns out there are a few problems with that proposition.

Find a Machine

If you want to use frequencies on yourself, you will need a machine that delivers very accurate electrical pulses on two independent channels so each channel can deliver its own frequency. You need to be able to easily change the frequencies or preset the frequencies onto a unit that will run them in a sequence and change them automatically after a specific time.

The unit needs to be battery operated so the current is direct current from a battery rather than alternating current from the wall. There are two reasons for this. One is safety—no one is going to be electrocuted by a nine-volt battery or six D-cell batteries. The other reason for using battery-operated current has to do with how your body works. Your nervous system and all of your cells operate on direct current, DC, like that coming from a battery. That's why low-level DC current increases cellular energy by 500 percent.[1]

Most of the protocols described in this book used alternating pulses of direct current, a positive pulse followed by a negative pulse. But the protocols for reducing nerve pain and treating the spinal cord use polarized positive pulses, which are a positive pulse followed by a space where the negative pulse is missing, followed by a positive pulse, and so on.

The electrical pulses have to be in a square waveform instead of a sine wave. We found out by trying them that sine waves don't work. I don't know enough about engineering to tell you how the waves are created, but we think we know why they need to be square. The square wave is square because of

the high frequency harmonics that add together to make the wave square, which makes the precise frequencies into pulses instead of the pure frequency from a sine wave. The fuzzy edges of pulses slightly off precise frequency are probably what make the frequencies effective on people as well as dogs, cats, and horses.

There are machines just like this on the market now, but the FDA has classified all microcurrent machines with such capacity as if they are transcutaneous electrical nerve stimulation (TENS) devices, and TENS devices are only available by prescription through a practitioner licensed to use and dispense them.

It has never seemed to matter to the FDA that TENS devices deliver milliamp current, a thousand times greater than microcurrent, and the delivery of current is their only common ground. TENS devices make muscles contract and stimulate the spinal cord pain pathways in such a way as to simply prevent pain messages from getting up to the brain. TENS blocks pain by scrambling the signals from the painful tissue in the spinal cord. As you have seen, microcurrent reduces pain by giving painful tissue the extra energy it needs to repair itself and using specific frequencies and the resonance effect to normalize function. This is an entirely different mechanism from TENS.

The FDA has an adversarial history with electromedical devices since it finished up what the AMA started in 1934 by taking the original electromedical devices off the market in 1951. And to this day the FDA will aggressively harass any device manufacturer for making any claims for any electrical device beyond that which could be made for a simple one-channel, pain-blocking, nontherapeutic TENS device. That's why any device you see advertised on the internet or in a magazine says almost nothing about what the device really does.

The FDA stringently regulates claims. It is not possible to say anywhere in print that any electrical device does anything beneficial to help repair tissue. All of the stories, case reports, and data in this book have to do with the effects of the frequencies and the current and nothing to do with the devices that deliver the treatment. Practitioners trained in Frequency Specific Microcurrent have the machines needed to deliver the frequencies and the preprogrammed protocols. But none of the stories or case reports told in this book could be told about the effects of a microcurrent device.

The resonance effect is the effect of frequencies. It's not about the box. But there has to be a device to deliver the frequencies. It's an interesting quandary, which creates a dilemma for any manufacturer who might be able to make a suitable device. It is possible to create an over-the-counter, nonprescription, two-channel device that can be programmed by way of the internet, but the regulatory issues are oppressive, expensive, and fraught with risk for the

manufacturer from the FDA. Finding a manufacturer willing to try it, at this point, has proven impossible. But that may change at any point in the future.

You can find devices and FSM training at Precision Distributing (PDI, www.precisiondistributing.com). Purchasing a device from this website requires that you check a box saying that you are a provider with a clinical license that allows you to use and prescribe TENS devices. There are other devices out there created to take advantage of the market FSM has created. Some of them are OK and some of them are not. I know what you'll be getting from PDI because I know George and the PDI support staff, and the company that makes them in Seattle. I can't tell you much about the others except for the usual caveat that you usually get what you pay for.

If we can find a manufacturer to create a programmable over-the-counter device, it will be done in a year or so. You can find out about it on the website www.theresonanceeffect.com .

Find a Practitioner

The frequency protocols and results discussed in this book were all achieved using a trained clinician to do the history, physical examination, diagnosis, and treatment. Frequencies and resonance in their hands are a powerful tool.

FSM trained practitioners are listed on the website www.frequencyspecific.com under the tab for "Find a Practitioner." Not all practitioners trained since 1997 have kept up with the newest advances in frequencies and protocols, and not all practitioners listed on the website evaluate or treat patients in the same way. Certified FSM practitioners have taken the Core Seminar twice, and the Advanced Course at least once, have completed a written examination, and have turned in ten written case reports. They have taken the time and put in extra effort to enhance their skills to deepen their knowledge.

FSM is taught as a "language," with frequencies for conditions and frequencies for tissues making up the words that are used to change symptoms and improve health. As with any language, there is no way to know how someone will put the words together to make a sentence or whether what they say will make sense to the body. Call the practitioner to make sure they know how to treat what you have, and make a preliminary appointment to see if you feel comfortable with them.

You can find FSM seminar training at www.frequencyspecific.com . Reading this book doesn't make you a medical provider, but it does assume that you have a certain internal wisdom that you can apply to participating in your health care. You can make an appointment with a trained FSM

practitioner, or you can listen to your own internal guidance and choose to treat yourself if you can find a device to deliver the treatment.

The resonance effect is more than numbers and frequencies, but the frequencies can help you bring your body into harmony with your soul's deepest resonance by helping to remove some forms of interference.

The Protocols

These frequency protocols have been used for close to twenty years in cases treated by thousands of FSM practitioners around the world. There are some things you should know about why they're being listed here.

Once the protocols are published, they can't be patented. Every person who has ever taken an FSM seminar has signed a nondisclosure agreement saying they won't release the frequency protocols or teach them. Not everyone has kept that agreement, but everyone has signed it. Theoretically, the protocols could still be patented because students effectively form a research group organized to study the effectiveness. By publishing the protocols I am deliberately choosing to make them unpatentable. Let me explain why.

The financial side of health care is bewildering and kind of slimy. This country spends $13 billion a year on the treatment of diabetic wounds and another $1.4 billion a year just on diabetic amputations once the wound care has failed. I have been trying for fifteen years to recruit researchers, investors, entrepreneurs, and manufacturers to create a device that will treat diabetic wounds and prevent amputations.

FSM practitioners have been using the diabetic neuropathy and wound healing treatment protocols successfully since 1998. We have pretty good data and some excellent case reports showing that microcurrent combined with the frequency protocols can help this dreadful condition. The treatment is inexpensive, low-risk, without side effects, and has never failed to be effective. Two wound-care facilities refused to take on the research project even as a funded controlled trial, and our contact at the funding agency stopped replying to messages about the grant they had promised for the $250,000 cost of the trial. One wound-care facility refused to take on the project even with donated machines and free training for the staff in return for data collection.

It is baffling and frustrating. Wound care is a huge financial and administrative industry, and changing it, even to improve outcomes, apparently presents insurmountable obstacles to the people involved in that system.

The diabetic wound and diabetic peripheral neuropathy project was then pitched to potential investors simply as a financial venture. To do the project properly would require an initial investment of around $2 million to fund the research trial, publish the paper, and develop a device to provide the treatments in doctors' offices and for patient home care. After five years the return on this $2 million investment would be $250 million if even 10 percent of potential patients and doctors purchase equipment. Maybe we have just been talking to the wrong people, and maybe I just don't understand what's important for this group, but no one has been willing to take on this project. Investors have said that unless they can see a return and an "exit strategy" within eighteen months, they aren't willing to discuss it. And if the process can't be patented, they don't seem to care how much money they could make, or how much good they could do. It is baffling.

If we can't get a company to do it, I am hoping that we can create a way for people to treat themselves and their loved ones by releasing the frequencies that have been effective and hope that the devices will follow. There has to be a way we can help stop this unnecessary carnage.

Diabetic Wounds and Diabetic Peripheral Neuropathy

Use 100 microamps. Alternating current. Contacts at the knees and feet. Use adhesive electrode pads as long as the skin will tolerate the adhesive.

Both feet are usually involved, and both should be treated at the same time. Place the positive lead from channel 1 at the right knee and place the negative lead from channel 1 on the ball of the left foot. Place the positive lead from channel 2 on the left knee and the negative lead from channel 2 on the ball of the right foot. Treat three times a week or more often as needed. Remember to drink two glasses of water before treatment. If you have congestive heart failure or kidney failure, follow your doctor's restrictions on water intake.

Note: Some peripheral neuropathies are caused by a lack of vitamin B^{12} , and in particular methylated B^{12} and methylfolate, and some are caused by medication side effects. If your feet are numb or painful and you are not diabetic, see a medical provider to find out why you have a neuropathy.

Table 9.1. Diabetic wounds and diabetic peripheral neuropathy

Condition	Frequencies
Consider infection (infection, staph, strep/artery, vein)	61, 66, 60/62, 79
Reduce inflammation [a] (inflammation, chronic inflammation, fibrosis, vitality/artery, vein)	40/116 [a]

Treat the blood supply (10 minutes each)	40, 284, 51, 49/62, 79
Treat the nerve (5 minutes each) (inflammation, trauma, vitality/nerve)	40, 94, 49/396

[a] If using 40/116 increases pain either during the treatment or after treatment, infection is the most likely cause, and appropriate medical steps should be taken.

Diabetic wounds and diabetic neuropathies happen because the blood vessels become inflamed, clog up with gunk, and deprive the nerves and skin of oxygen and nutrients. Not all wounds are infected, but if you're going to use 40/116 to reduce inflammation, you have to be sure that the area is not infected.

Insulin Resistance

Diabetics have a problem with various tissues, especially fat tissue (97 hertz), being resistant to the effects of insulin. Anything that will improve insulin sensitivity helps diabetics. The frequency protocol for insulin resistance has been in use since 1999 and seems to be very effective. Everyone treated with it loses their appetite for sweets, has a reduced appetite in general, and with consistent use finds their waistlines getting smaller. The effects last about one week, but you can use it more often if you find it helpful. New research shows that just running current through abdominal fat improves the body's ability to use it during exercise, so maybe it is more the current than the frequency effect. However it is working, there seems to be no doubt after seventeen years that it is working. My favorite diabetic patients asked specifically that this protocol be included.

Use 100 microamps, alternating current. Place the contacts on the back and on the abdomen so the current runs through the abdomen. If using adhesive electrode pads, place the positive lead from channel 1 on the right side of the lower back, and the negative lead from channel 1 on the left side of the abdomen. Place the positive leads from channel 2 on the left side of the lower back and the negative leads from channel 2 on the right side of the abdomen.

Table 9.2. Insulin resistance[a]

Condition	Frequencies
treat the adipose (fat)	94, 970, 321, 284, 57, 920, 900, 365/97
viral component	230/430

prevent constipation [a]	57, 900, 920/709

[a] Everyone treated with the first portions of this protocol had all of the beneficial effects, but everyone also became constipated. These three frequency combinations eliminated the constipation. Do not use the protocol without including them.

Table 9.3. The pancreas[a]

Condition	Frequencies
frequencies for the pancreas	970, 294, 321, 40, 61, 284, 91, 81, 49/9, 91

[a] **Do not** use this protocol if you are a type 1 diabetic or if you are an insulin-dependent type 2 diabetic. If the protocols are successful, there is a chance that the pancreas will start producing more insulin and your blood sugar could go too low. This could be dangerous. Do not ignore this warning. Do not use this protocol except as an adjunct to appropriate medically supervised care.

The case reports for acute and chronic pancreatitis described in chapter 8 used this protocol. You are welcome to try them as an adjunct to standard medical care for your condition.

Concussion Protocol

The concussion protocol discussed in chapter 8 was Van Gelder's first treatment for almost everything. Any condition seems to respond better to treatment when the concussion protocol is used. The effects are subtle but profound, especially in patients who have had any sort of head trauma or even emotional trauma. It appears to reset the nervous system in a most profound and helpful way that is hard to describe.

Use 100 microamps with alternating current. Place the contacts anywhere convenient on the body. Remember that the frequencies and current from the two channels have to intersect or cross through the body. If using adhesive electrode pads, put the positive lead from channel 1 on the right side of your lower back, the negative lead from channel 1 on the left side of your abdomen. Put the channel 2 positive lead on the left in the back and negative lead on the right in the front.

The concussion protocol can create a strong sense of relaxation. Do not use this protocol while you are driving, operating dangerous equipment, or doing detailed crucial work. It is best to use this protocol for the first time when you are resting in a safe, secure position, because some people fall asleep while it is running.

Table 9.4. The concussion protocol

Condition	Frequencies
reduce nervous tension	94/200
reduce emotional tension	970/200
treat the basics/medulla	94 [a], 321, 9, 49/94
treat the basics/pituitary	94, 321, 9, 81, 49/310
constitutional or genetic factors	6.8/38
vitality female or male	49/37 female; 49/39 male
balance energy centers	35/102

[a] A very small number of patients with certain types of vestibular injuries may become dizzy when 94/94 is used. This is a very rare occurrence, but if it happens, skip the frequency combination 94/94 and use the rest of the protocol. The dizziness should pass in a few hours, but if it persists, most people use a motion sickness remedy to reverse it.

Post–Traumatic Stress Disorder

The PTSD protocol is too long and too complicated to be included in this list. It was developed in 2005 and has been used successfully for eleven years now in hundreds of offices on hundreds of patients. It takes two hours to run it, but it only needs to be used six to eight times for the PTSD symptoms to resolve, no matter how long the patient has had PTSD. In the medical world, no improvement in PTSD is expected once the patient has had it for two years. See the comments in chapter 10 by Greg Goodale as well as Mylene T. Huynh and Stephen J. Sharp, physicians from Walter Reed Medical Center. Once treatments start, the patient needs to have permission to start reducing medications from the prescribing physician. It is best to use this protocol with the help of a trained FSM practitioner and to have their support and guidance while you're being treated.

In general, the nightmares, anxiety, and flashbacks disappear after the first few sessions. The rest of the symptoms are generally gone by session six, but we recommend a total of eight treatments, just for the sake of being thorough. The biggest challenge for the patient appears to be the speed with which the symptoms change. PTSD test scores are reduced toward normal after four sessions and are usually normal at the end of eight. We wish you well on your journey toward recovery and peace.

Emotional Relax and Balance

This protocol is used to help neutralize various emotional states, and the NIH data suggests that it raises serotonin levels. Van Gelder used 970 on channel 1 combined with the frequency for the organ associated with that emotion on channel 2. Use the frequencies for the emotions you think are more of an issue for you, and remember that most emotions are layered or combined. You'll know what they are. There have never been any side effects associated with these frequencies, and most people just report feeling floaty and more relaxed after using them. If you are under a doctor's care for psychiatric issues, or if you are on multiple psychiatric medications, use with caution and consult your physician, counselor, or therapist before use. This protocol is best used after the concussion protocol.

Table 9.5. Emotional relax and balance

Condition	Frequencies
nervous tension—use first for 2 minutes	94/200 (solar plexus)
emotional tension—use second for 2 minutes	970/200 (solar plexus)
anger, aggression	970/35 (liver)
fear, terror, defensiveness	970/27 (colon)
fear, fixed ideas, oversensitivity	970/23 (kidney)
frustration	970/71 (adrenals)
grief	970/17 (lung)
guilt, resentment	970/38 (gall bladder)
hurt feelings	970/37 (bladder)
can't get it together, boundary issues	970/355 (skin)
irrational thought	970/90 (forebrain)
mental tension	970/562 (sympathetics)

worry, oversensitivity	970/13 (lymphatics)
loneliness female	970/34 (uterus)
loneliness, male	970/5 (prostate)
loss of harmony, life has lost sweetness	970/9 (pancreas)
anxiety, worry, ruminating	970/32 (stomach)
abandonment, feeling lost	970/22 (small intestine)
restore joy	970/33 (heart)

Fibromyalgia Associated with Spine Trauma

This protocol is only useful for the 30 percent of fibromyalgia patients who have the type of fibromyalgia associated with spine trauma. These patients typically have full-body pain and often specifically complain of pain in the hands and feet. It will not change body pain from any of the other causes of fibromyalgia.

Place positive leads from both channels in a warm, wet hand towel that goes around the neck. Place negative leads from both channels at the feet.

Table 9.6. Fibromyalgia associated with spine trauma

Condition	Frequencies
reduce cord congestion to prevent possible side effects from polarized positive treatment	40, 50/10 alternating current
use if patient is taking narcotics	19, 43, 46/10 polarized positive
reduce body pain (60 minutes)	40/10 polarized positive
optional: treat the cord (2 minutes each)	94, 81, 49/10
if patient becomes anxious or shivers [a]	40/562 polarized positive
optional: release dural and cord adhesions—use with gentle repeated trunk flexion while this is running	13/10, 443 polarized positive

reduce central sensitization [b]	40/89 polarized positive+
address the pain projection system—use for four minutes each [c]	40/94, 562, 84, 89, 90, 92, polarized positive

[a] Occasionally patients will become anxious or begin to shiver about twenty minutes into the cervical trauma fibro protocol. 40/562—the frequencies to quiet the activity of the sympathetic nervous system—will stop this reaction in two to five minutes. It is thought that the sympathetic fight-or-flight system is activated when the endorphins increase so rapidly.

[b] When the pain goes to 0 out of 10, the patient often looks confused, and when asked, will say something like, "I feel as if I should be in pain but I'm not." The frequencies appear to reduce this problem in approximately twenty minutes.

[c] Pain signals from prolonged body pain activate and sensitize the pain fibers from the nerves through the cord to every part of the brain. These integrated pain tracts are called the pain projections system. When pain is decreased so dramatically so quickly, the whole pain projection system has to adjust, and these frequencies help with that adjustment.

Nerve Pain

Nerve pain is caused by inflammation in the nerve. It doesn't matter if the nerve pain is sciatica from a disc injury in the lower back, or arm and hand pain from a disc injury in the neck; the FSM treatment protocol is more or less the same. Nerve traction injuries happen when the nerve is stretched during trauma or surgery. They are incredibly painful and heal very slowly or not at all, and there is no way to treat them medically. The FSM protocol for nerve pain usually eliminates the nerve pain in one treatment and repairs the tractioned nerve in two or three sessions. There are no side effects to this protocol unless the spinal cord or nerves are compressed by bony growths called stenosis. If there is stenosis, then the protocol has to be used with alternating current instead of polarized positive current. In general, nerves and the spinal cord love to be polarized positive, unless there is compression from stenosis.

Nerve pain can affect any nerve in the body. Nerves go from the neck to the arms, from the spine to the trunk, and from the lower back to the legs and feet. If you have nerve pain and also have muscle weakness or lost sensation in the groin, see a medical physician immediately and ask for referral to a surgeon. Place the positive leads from channel 1 and 2 at the neck so they wrap around the neck where the nerve roots come out of the spine. Place the negative leads from channels 1 and 2 at the end of the nerve root. This protocol is only helpful for nerve pain. This protocol will not change arm, leg, or trunk pain from other causes.

Table 9.7. Nerve pain

Condition	Frequencies

reduce inflammation and nerve pain	40/396 polarized positive
increase range of motion nerve, cord	13/396, 142, 10, 443
neuropathic pain from cord [a]	40/10
central amplification [b]	40/89

[a] There will be times when the spinal cord is involved in nerve pain. There may be times when 40/10 for inflammation in the spinal cord will be required to resolve nerve pain. There are no more specific guidelines than that. If 40/396 works but doesn't resolve the pain, sometimes you will need to use 40/10.

[b] There will be times—not every time—when the nerve pain is gone but it feels as if it should still be there. The patient will feel odd being out of pain. The patient will look confused or will say something like, "I can't feel my arm." That suggests that the sensation for the painful limb stops in the pain centers in the thalamus. The frequencies 40/89 will turn off that central pain amplification in roughly ten to twenty minutes.

Muscle Pain

Most muscle pain is actually caused by something besides the muscle. But that took years to understand and to develop the frequencies to treat. If you have muscle pain, it can come from inflammation in the spinal cord or the nerves, from disc injuries, from facet-joint injuries (the posterior joints in the spine), or any organ underneath the tight muscle. And it can come from a viral infection, toxicity exposure, or an emotional issue. If this simplistic protocol doesn't help your muscle pain, find an FSM practitioner who has been trained since 2011 and ask them to treat you.

Place the positive contacts from channel 1 and channel 2 at the spine where the nerves to the muscles come out of the spine. Place the negative contacts at or over the painful muscles.

Table 9.8. Chronic muscle pain protocol

Condition	Frequencies
nerve component	40/94, 10, 396 polarized positive
ligament laxity component	124/100, 191, 77
disc component	40, 124/710, 630, 330
posterior spine facet joint component	40/157, 783, 480
fibrosis or scar tissue	58/00, 02, 32

scar and hardening/nerve, fascia, muscle, and connective tissue	13, 91/396, 142, 62, 77
viral component	230/430 or 160, 61/62, 142, 77
emotional component	970/62, 77, 142
visceral component [a]	40/various organs; can be complicated
toxicity component	57, 900, 920/62, 142, 396
increase secretions, vitality in fascia	81, 49/142

[a] Sometimes the muscle pain and muscle knots are caused by inflammation in the visceral organs that are underneath the muscle. Lower back pain can come from muscle knots in the abdominal muscles caused by inflammation in the descending colon portion of the large intestine (40/65), the small intestine (40/22), the ovary (40/7), or the kidney (40/23). These causes of chronic muscle pain can be complicated and may be best left to a trained FSM practitioner to treat.

Neck and Lower Back Pain

Table 9.9. From posterior spine joints: facet-generated pain

Condition	Frequencies
stop minor bleeding from new injury	18/62
frequencies for new facet joint pain	124, 40, 49/157, 59, 39, 783, 480, 191, 396, 100
frequencies for chronic facet joint pain	40, 284, 13, 91, 49/157, 480, 783, 59, 39, 191, 396

Common Conditions—Channel A

Condition	Frequencies
inflammation	40
chronic inflammation	284
“torn or broken”	124
remove scarring	13
hardening, calcium influx	91
vitality	49

stop minor bleeding	18/62 (artery)

Facet Joint Tissues—Channel B

Condition	Frequencies
cartilage	157
periosteum	783
bone	59, 39
joint capsule	480
nerve	396
ligament	100
tendon	19

Table 9.10. From spinal discs: discogenic pain[a]

Condition	Frequencies
stop minor bleeding from a new injury	18/62
frequencies for a newly injured disc	124, 40 [b], 49/330, 630, 710, 396
frequencies for chronic degenerative discs	284, 40, 91, 49/330, 630, 710, 396
frequencies to release nerves from scar tissue	13/396, 142

[a] Disc-generated pain is helped considerably by exercises to strengthen the muscles that extend the spine. Extension muscles make you lean back in the neck or lower back. To help disc pain recover, you have to stop making it worse, which means you have to stop bending forward and stop lifting anything that weighs more than ten pounds for at least six weeks while the disc heals. Yes, that includes groceries and your purse.

[b] Disc material is very inflammatory. Use 40 hertz for at least five minutes with every tissue.

Disc Tissues—Channel B

Condition	Frequencies

disc annulus: outside edge of the disc	710
disc nucleus: center of the disc	330
disc as a whole	630
nerve	396
fascia—surrounds the nerve and can stick to it	142

Ovarian Cysts

Ovarian cysts are so simple to treat and have seen twenty years of universal success with treatment with no side effects or negative effects. The medical options are invasive and complicated, so the FSM treatment had to be included in this self-treatment guideline. It's a good idea to make sure the ovary is not cancerous, since FSM is never used to treat cancer, but as long as it is not cancerous, ovarian cysts usually resolve in thirty to sixty minutes. It is included in this list because they are so easy to treat—really.

Use with alternating current, any wave slope. Attach electrodes so current runs through the lower abdomen. Make sure the frequencies from the two channels cross through the lower abdomen.

Table 9.11. Ovarian cysts

Condition	Frequencies
inflammation in the ovary	40/7 (ovary)
chronic inflammation in ovary	284/7 (ovary)

If this protocol doesn't help or if pain persists, be sure to see your doctor to find out what else might be going on. This protocol will not help with abdominal pain from endometriosis or from abdominal or pelvic scar tissue.

New Injury: Soft Tissue[a]

Use with alternating current, gentle wave slope. Attach electrodes so current runs through the injured tissue. Make sure the two channels cross through the

tissue. Use as soon as possible from the onset of the injury through the first week following the injury. Treating within four hours of the time of the injury speeds recovery.

Table 9.12. New injury: soft tissue

Condition	Frequencies
concussion protocol, as soon as possible	
stop minor bleeding	18/62
"torn or broken": will reduce pain quickly but seems to be time-dependent for repair; may run for as much as an hour for tendons, ligaments	124/62, 142, 77, 191, 100
trauma, reset function, reduce histamine, reduce inflammation	294, 321, 9, 40/62, 142, 77, 191
trauma, inflammation in the nerve	94, 40/396
increase vitality and secretions in repair tissue (any tissue)	81, 49/62, 142

[a] No protocol can put tissue back that is not there. A torn ligament is a torn ligament. But this protocol will help healing after the surgical repair.

Asthma: Chronic Asthma

Asthma is a serious medical condition, but it has always responded well to FSM. If you have asthma, follow your doctor's advice, but you may want to add FSM and the resonance effect to your current therapy and see if it helps. You might want to start with a trained FSM practitioner. There is more to treating asthma than just treating the bronchi. Asthma doesn't come from space and jump on you. Asthma happens when the immune system becomes hyperactive and the immune system cells in the bronchi become hyper-reactive.

Since 85 percent of the immune system clusters around the intestines, it may be useful to treat the digestive system and the immune system with specific frequency protocols and other functional medicine or integrative medicine strategies. I always recommend a hypoallergenic diet, which means you'll have to go off of wheat, eggs, milk, corn, soy, peanuts, and citrus for at least eight weeks. This is inconvenient but not impossible, and it's minor compared to the inconvenience of having asthma. This will quiet down your immune system. We always use some sort of friendly bacteria supplements to

restore the kinds of bacteria that can help make the short-chain fatty acids to repair the gut wall. See an FSM practitioner or a functional medicine practitioner for this more in-depth approach.

Use with alternating current, gentle wave slope. Attach electrodes so current runs through the chest. Do not use current through the chest if you have a pacemaker. This has never been a problem, but since the devices are classified as TENS units, technically you shouldn't run them through the chest if there is a pacemaker. Make sure the two channels cross through the tissue. Put the positive leads from channel 1 on the right side of your upper back and the negative leads from channel 1 on the left side of your chest. Put the positive leads from channel 2 on the left side of your upper back and the negative leads from channel 2 on the right side of your chest.

Table 9.13. Asthma[a]

Condition	Frequencies
the basics for the bronchi	970, 294, 321, 9/64
spasm in the bronchi	29/64
inflammation in the bronchi	40/64
histamine in the bronchi	9/64
congestion in the bronchi	50/64
vitality/bronchi	49/64

[a] Frequency protocols should be used in conjunction with proper medical, chiropractic, naturopathic, or Eastern medicine evaluation.

Table 9.14. Chronic asthma[a]

Condition	Frequencies
inflammation in the bronchi	40/64
chronic inflammation in the bronchi	284/64
"torn or broken" in the bronchi	124/64

remove fibrosis from the bronchi Inhale as deeply as you can without coughing while this frequency is running.[a] Breathe normally for a minute, and then inhale deeply again and see if it changes how deeply you can inhale.	51/64
remove scarring from the bronchi Inhale as deeply as you can without coughing while this frequency is running. Breathe normally for a minute, and then inhale deeply again and see if it changes how deeply you can inhale.	13/64
hardening in the bronchi	91/64
inflammation in bronchi	40/64
vitality	49/64
stop minor bleeding Use this if it begins to sting after you do the deep breathing. [a]	18/62 (artery)

[a] Frequency protocols should be used in conjunction with proper medical, chiropractic, naturopathic, or Eastern medicine evaluation.

Treat the Small Intestine

If you're going to treat asthma, you're going to have to treat the digestive system as a way of quieting down the immune system. The small intestine has the strongest sensitizing effect on the immune system, so that's the protocol presented here. For optimal results you're going to have to try a hypoallergenic diet for six weeks and avoid the seven foods most people are allergic to. This means no wheat, corn, soy, dairy, peanuts, citrus, or strawberries.

There is no way to sugar coat it—this diet is inconvenient and completely obnoxious. I'd like to buck you up by telling you it is well worth it, and it will really help, and you should just hike up your shorts and do it—those things are all true—but it doesn't make this diet any easier, especially if you travel or eat out. However, if you are sick enough and desperate enough, you can do anything for six weeks. I speak from experience. I traveled all over the United States, went to England and Australia for eight months, and could only eat about six things that didn't make me break out in hives. The printer who had been exposed to toxins described in chapter 6 went six weeks with no grains at all, not even rice. You can do almost anything for six weeks. If the diet is going to help, you may feel worse for the first few days as the antibodies get hungry and as you withdraw from the morphine-like substances wheat and milk feed your brain. But it's worth a try if you want to feel better. The frequencies will help. Run the concussion protocol and treat the small intestine.

Use with alternating current, gentle wave slope. Attach the electrodes so current runs through the abdomen. Make sure the two channels cross through the abdomen. Put the positive leads from channel 1 on the right side of your lower back and the negative leads from channel 1 on the left side of your abdomen. Put the positive leads from channel 2 on the left side of your lower back and the negative leads from channel 2 on the right side of your abdomen.

Table 9.15. Small intestine

Condition	Frequencies
Basics for the small intestine	970, 294, 321, 9, 49/22
Neurological component[a] these frequencies tend to balance the nervous system in favor of good digestion. Use for 1 minute each.	40/562, 6—Quiet the sympathetic nervous system[b] 49/709, 3—Improve function of the parasympathetic nerves [b]
Use these A/B pairs for bacterial balance before using frequencies to reduce inflammation.	97/40, 98/20, 64/42, 64/63, 460/650
Remove most common pathologies. Use for 5 minutes each.	40, 9, 284, 124/22
Do the concussion protocol.	

[a] The digestive system is controlled by the autonomic nervous system.

[b] Do not use for more than one minute each.

Shingles

Shingles has always been easy to treat as long as it is treated in the first three weeks from the onset of pain. Once the infection is past the three-week mark, the pain is coming from the damage done to the nerves by the virus. That condition is called postherpetic neuralgia, and it is much more difficult to treat. If the pain is caused by the shingles virus, the frequencies will begin to reduce the pain in about twenty minutes, but it needs to run for two hours to have a long-lasting effect. You may need more than one two-hour session. If the pain comes back, simply treat it again for another two hours. It shouldn't take more than two or three sessions over a few days to resolve shingles—at least it never has. If you're uncertain about how to set up the machine or how to position the contacts, call a trained FSM practitioner and have them help you.

Use with alternating current, gentle wave slope. Attach the electrodes so current runs through the involved nerves. Eighty-five percent of shingles involves nerves in the trunk. Do not use current through the chest if you have a pacemaker. Make sure the two channels cross through the tissue. Put the positive leads from channel 1 on the right side of the spine where the infected nerve comes out and the negative leads from channel 1 at the end of the painful nerve. Put the positive leads from channel 2 on the left side of the spine where the nerve comes out and the negative leads from channel 2 at the end of the painful nerve. For cranial nerves, put the positive leads at the neck and the negative leads at the end of the painful nerve on the face or head.

Table 9.16. Shingles

Condition	Frequencies
shingles	230/430

This protocol is time dependent. Pain is reduced in twenty minutes, but needs to run for at least two and sometimes four hours to resolve shingles. This protocol is not useful in postherpetic neuralgia.

Kidney Stone Pain

This protocol is so easy, and works so quickly, and kidney stones are so painful that it would just be wrong not to put this out there so that you can help yourself, your friends, and family. It just helps the pain. You will still need help to dissolve and move the stone. Drink lots of water. People say cranberry juice helps dissolve the stone by making the urine more acidic. There are FSM protocols that help dissolve the stone, but they should be used by a practitioner who can keep track of your symptoms.

Use with alternating current, gentle wave slope. Attach electrodes so current runs through the upper abdomen. Make sure the two channels cross through the abdomen. Put the positive leads from channel 1 on the right side of your lower back and the negative leads from channel 1 on the left side of your abdomen. Put the positive leads from channel 2 on the left side of your lower back and the negative leads from channel 2 on the right side of your abdomen.

Table 9.17. Kidney stone pain

Condition	Frequencies
kidney stone pain	20/60

This protocol is time dependent. Pain is reduced in twenty minutes, but needs to run for about an hour for long-lasting pain relief. Use as often as needed. If the pain persists or if there is a chance that the stone is blocking the ureter, go to an emergency room for imaging and treatment.

There are so many other protocols taught in the seminars and used by skillful, thoughtful practitioners. But these few should give you an idea of what is possible using specific frequencies to change how cells function and improve health. These days I have a very small part-time practice and spend most of my time teaching seminars. Medical physicians, chiropractors, naturopaths, physical therapists, occupational therapists, nurses, physician's assistants, acupuncturists, and many other clinical specialists take the Frequency Specific Seminars training and attend the Advanced Course and Master Classes. There are over two thousand clinicians using FSM in eleven countries. Our clinical partners in Germany, Kuwait, Ireland, England, and Australia help with training and keeping the local practitioners up to date. The FSM practicum instructors do the hands-on training for people who take the course on video or who read the FSM textbook, *Frequency Specific Microcurrent in Pain Management.* Every year there are new discoveries, and every year we end up treating conditions I would never have imagined we could treat.

I turned seventy last week and celebrated by teaching a small group Master Class on my birthday. On those two days, we treated two patients with mild lower extremity spasticity caused by spinal cord myelopathies (scar tissue in the spinal cord from disc injuries). Both patients improved completely, and probably temporarily, but the fact that the muscle tightness in their legs could be resolved only by using frequencies for "increasing secretions in the spinal cord" was and remains mind-boggling. The third patient was treated successfully for abdominal pain and adhesions that she had had for twenty years. It is a profound privilege to participate in anyone's recovery. But it is difficult to describe the feeling of deep satisfaction that comes with knowing these twelve practitioners will never forget what they saw and will always be able to help patients like this by using what they learned.

The Friday-night birthday party buffet was low-key, with good food for longtime dear friends and practitioners. I'm Italian, and lots of food with lots of leftovers is always part of the program. My kids were there. They have

both turned out to be wonderful people. Wendy is back in school and wants to become an occupational therapist. Adam is back in school, works with George at PDI, and has turned out to be a wizard with the CustomCare software and customer support. Their two sons were home in their beds. I just love hanging out with the grandchildren, but not at late-night dinner parties. George is eighty-two and still repairs the old blue box Precision Microcurrent at his place a few miles away, and he still runs Precision Distributing. After twenty-five years our comfortable intimacy seems to just get better.

As I head into my final decades, my heart's desire is to make sure that twenty years of experience using the resonance effect will persist after I am gone. There is so much more to do. There is so much research to be done. There are so many more patients who can be helped and given hope.

10.

In Their Own Words

When I describe the resonance effect and the power of frequencies to heal in case reports and even published papers, the success stories are always a little suspect. The skepticism is not completely unreasonable. I teach seminars and have a reasonable vested interest in creating a positive impression. When practitioners and patients tell their own stories in their own mostly unedited words, they have no vested interest to be suspicious of. These people are simply reporting their own experiences.

There is a saying medicine, "The plural of anecdote is not data." This means that the anecdotes, the stories of successful recoveries, however heartwarming, do not count as properly controlled experimental measurements of therapeutic responses proving conclusively that the treatment caused the response.

What follows in this chapter are anecdotes and stories from patients and practitioners. These cases point the way toward what should be studied when properly controlled trials can be done. In the meantime they give us a view to what is possible. At some point the weight of individual successes has to exceed our capacity to believe they can all be coincidence or placebo and must eventually approach the level of evidence suggesting that the therapy in question caused them.

These stories are in no particular order. Some of them are more effusive than I would dare to be, and you are welcome to take the enthusiasm with a grain of salt, and equally welcome to accept that it is a consequence of life-changing experiences. Read and enjoy the ones that speak to you.

▪ **Shawna Hagerty,** RSD/CRPS and Fibromyalgia Patient

In May 1999, at the age of thirty-two, my family and I were involved in a car accident. Although I did not break any bones, it was immediately evident I had seriously injured my left leg. The diagnosis was a severe bone bruise to my left shin. It was news to me that you could bruise your bone. Along with the normal prescriptions for pain and inflammation, the doctor sent me to physical therapy. A few weeks into the PT process I experienced an increase

in pain, which elevated to the point I could not even handle the weight of my pants, a bed sheet, or a breeze on my leg.

Back to the orthopedist I went, where, after examination, he referred me to a pain specialist. The diagnosis from him was even more surprising: reflex sympathetic dystrophy and complex regional pain syndrome RSD/CRPS. Again it was something I had never heard of, and I came to find out it is so rare that many physicians have not heard of it either. As it was explained to me, it is as if all of the lines from my brain to my left leg had been unplugged and then plugged back into the wrong receptacles. The result is chronic and constant pain in the afflicted extremity with no cure.

The initial solution was more medication, including steroids and additional pain pills. In November the pain specialist recommended a spinal-cord stimulator. I opted to go ahead with the implanted device, which, at the time, required surgery to the back to implant an electrical lead into the sympathetic nerve bundle and surgery to the abdomen to set the device subcutaneously, where you can control it with an external remote.

As it turned out, I had three surgeries to implant and make adjustments to the device over a three-month period. This was due to the pain migrating to my right leg and the pain escalating to a point I could not turn the device up high enough to interrupt the signal to my brain.

From here things continued to spiral downhill and I started to experience pain everywhere. The worst was severe pain in my right arm and neck with unexplained swelling. The pain specialist sent me to a rheumatologist whose diagnosis was fibromyalgia, another affliction with no known cure. More medication was prescribed, bringing the total to thirteen different prescriptions a day, and still no real relief.

I was ready to throw in the towel, literally. I had never considered suicide and found it on my mind frequently. I was unable to work, and although I attempted to mask the magnitude of my situation from my daughter and stepson, I could hardly get off the couch to play with them, pick up the house, make dinner, or even take a shower. My marriage of one and a half years, needless to say, was on the rocks.

My husband mentioned my struggles to a friend, who in turn called his medical doctor in Texas to see if she had any suggestions. She had just attended a seminar where she had seen Carolyn present, and recommended I call her to see if she thought FSM might offer me relief. I immediately made the call. Within a week I was living in my parents' RV in Portland and scheduled for FSM treatment every weekday for two weeks with Carolyn.

When I arrived at Carolyn's office for my first treatment, my pain was 9 out of 10. She started treatment and in no time I had an overwhelming rush of

relaxation cascade over me. It was a miracle. By the time I left my first appointment, I was pain free for the first time in nearly a year.

During my time with Carolyn, she treated the whole me. I had massage with the FMS unit and without: traditional FSM, baths in the clinic spa, physical therapy, and an appointment with a medical doctor for injections to combat spasms and targeted pain in my back and hip, which I did not even feel until RSD and fibromyalgia were silenced by the FSM treatment.

I went home to Idaho two weeks later pain-free and off all of the pain medication. I no longer turned on the spinal-cord stimulator, and a short time later had the entire unit removed. In two weeks I was cured of two diseases that I was told were not curable.

It has been a little over fifteen years since my beaten and battered body and soul hit the front door of Carolyn's clinic, and there are still no words to describe the amazing results I experienced from FSM therapy, and the gratitude I have for Carolyn and her staff.

—Shawna Hagerty

▪ **Cindy Power,** Severe Trauma Patient

On April 18, 2005, while on vacation in Utah, I was crushed in a car accident. First, my lap-only seat belt crushed my hip and pelvis while our car rolled over and over. The seat belt was loosening up on the way. Before we stopped, my body started to come out of the seat belt and nearly ripped my leg off at the knee. When I was completely free of the seat belt, my head went out of the window and the car rolled over me, crushing my skull, eye rotator, and jaw and breaking my neck.

Thank the good Lord we were traveling with a firefighter, and I received amazing on-the-scene care. I was airlifted to University Hospital in Las Vegas where I had eight major surgeries over forty days while they kept me in a drug-induced coma. Once back home in Orange County, California, I was left to find doctors that would rebreak my skull and try to reconstruct my face. This was completed in another two surgeries.

Doctors told my family there were eight things that could have killed me, yet here I was. Facing a life of pain medicine and therapy, I was determined to move past this. Neurologists gave me no hope of recovering movement in my right leg and promised me ongoing nerve pain. The physical therapist told me my foot would become deformed, and I should use a pumice stone to remove dead tissue. I was referred to a pain management doctor who said when I became addicted to one pain medication he would get me off of it and

prescribe another. I was so constipated I was put on medication to relieve myself and wondered what was next. My future looked grim.

One day in September that year I got a wonderful call from a friend. She just had a business meeting here in Los Angeles with Doctor Carolyn McMakin, a woman who could help me. Doctor McMakin would be flying to Oregon in two hours, but if I could come right over, she would give me a sample treatment. This one-hour treatment was the key to the final miracle I needed and the happy ending to my ordeal.

As soon as I could, in January 2006, I went to Portland for treatment. I had FSM treatments every day for a week. They treated the nerve pain, dissolved the scar tissue in my hip and leg, and the pain drained out of me. By the end of the week I was completely off pain medicine and I was able to walk well with a cane. I went home hungry for more.

I returned in April, and another week of treatment was the icing on the cake. They removed more scar tissue from my leg, which improved my movement, flexibility, and nerve sensations. My voice had been altered due to the scar tissue on my vocal cords; they dissolved the scar tissue and my voice was mine again. Doctor McMakin fine-tuned my face, removing scar tissue that kept me from showing emotion. The one thing I never beat was foot drop. From what I understand, foot drop can result from numerous traumatic events, and I had suffered at least three of them. They were able to get my foot to neutral; this has been a huge improvement and allows me to walk without a cane. One year after my accident, thanks to Dr. McMakin's amazing FSM treatments, I left my pain and cane in Seattle.

After my second round of treatments, Dr. McMakin said I was ready to do it alone. I purchased FSM equipment, and under her guidance I have kept myself moving and out of pain ever since. As a result of my injuries, one of my legs is a full inch shorter than the other. This causes my spine to curve and me to get out of sorts every once in a while, especially after a big day on the farm gardening or carrying animal feed. I can't even believe I am able to do these things. My foot is not deformed, and I walk with a very slight limp. After a big day I simply connect my FSM unit while watching TV before bed, and I wake up ready to take on a new day. I have not required any medication since my treatments with Dr. McMakin.

Four years ago I met the love of my life. He had just been diagnosed with prostate cancer and had his prostate removed. I hooked him up to FSM treatments for urinary-stress incontinence and soft tissue trauma, and boom, he is fully functional. This has saved my life in so many ways.

This treatment should be made available to everyone facing pain, ailments, illnesses, and following surgery. I was so blessed that I had that chance meeting with Dr. McMakin. Everybody ought to know.

▪ **Greg Goodale,** Chronic PTSD Patient

When you read this case, be aware that from a medical perspective, once PTSD is two years chronic, no improvement is expected. This patient was an army medic in Iraq, and his PTSD was eleven years chronic.

Before starting FSM, I suffered from violent nightmares, paranoid delusions, anxiety caused by unexpected loud noises, anger issues, and I was self-medicating with alcohol and cannabis. I started being treated once a week with the FSM PTSD protocol in December 2015. Two weeks after starting FSM treatments, much of the anxiety began to diminish. In the following weeks, I noticed the paranoia, anxiety, nightmares, and anger fade.

While running the concussion protocol and the PTSD protocol, I could physically feel a change in my neck and shoulders, and in my daily life I felt more relaxed and started feeling the freedom to enjoy the things I once did. My loved ones have noticed a difference, which gives me hope of recovering from my experience in Iraq in 2004 as a U.S. Army combat medic.

I am proud of my military service and I hope my experience with FSM can help veterans like me find solace and comfort in their post-military careers.

▪ **Ben Katholi,** Pediatric Physical Medicine and Rehab, Cleveland Clinic

FSM has been a driving force for change to my practice since my initial training three years ago. I initially had exposure to microcurrent therapy through acupuncture training, and had experimented with non–frequency-specific treatments. Our center quickly realized that there was a limited scope to these.

I had the chance to try FSM for my own chronic injury at a medical meeting, and thus gained knowledge for the capability of this unique therapy. Initially being the sole provider at our facility provided a steep learning curve but a significant number of opportunities to help patients.

Since that time, we have expanded to yearly trainings at our facility with a growing number of staff being trained, giving us the ability to treat with FSM at all of our therapy satellites as well. Experience with FSM has shown thus far that it has a broad range of use within the rehabilitation realm.

It is not just for pain, and we are in the process of initiating research in multiple areas to document the effects we have noted at our center. FSM has been incorporated into our integrative medicine center but is also utilized in inpatient and outpatient therapies, as well as our pediatric pain rehabilitation program.

The benefits of having access to this technology for inpatient rehabilitation include direct treatment of pain symptoms, allowing for quicker mobilization of patients while using less medication. It has also been beneficial in rehabilitation of brain injuries, burns, spinal cord injuries, poly trauma, and medically complex patients. We have also had initial experience with temporary alleviation of spasticity and dystonia using this technology.

In the outpatient setting, it has shown to be uniquely beneficial in injuries originally thought to be chronic or untreatable.

Having direct access to specific tissues in a noninvasive treatment strategy has allowed for utilization in multiple areas of care. Examples are curative effects on neuropathic pain, improved range of motion with torticollis and brachial-plexus injuries, and alleviation of chronic postfracture pain. We are initiating research into feeding disorders and ADHD based on the experience of our practitioners.

In my opinion, FSM therapy has opened the door to treatment of symptoms that were incredibly challenging or previously untreatable. It has allowed me to reduce the use of certain oral medications, and has improved quality of life for many types of patients.

It has also allowed me to witness the creativity of other providers in how they are able to help patients with this therapy. Patients appreciate the immediate effects of therapy, and that it is noninvasive and painless.

I would encourage those that are interested to be trained so that this type of therapy can continue to grow and improve the practice of medicine.

—Ben Katholi, MD, Pediatric PM&R–Cleveland Clinic

▪ **Eimear Smyth,** Patient

Having sustained what appeared to a minor whiplash-type injury in 2004, I visited my doctor for treatment.

Over the following two years the headaches became constant and severe such that I eventually had to give up work, my social life, and sporting activities. I was literally racked with pain. The simplest task would take enormous effort. I lost a considerable amount of weight, I lost my personality, and I was losing the will to live, but I was determined to find a way back to my normal life. I was twenty-five years old.

I registered with a medical doctor in Cork who specialized in chronic pain, and it was through her that I was first introduced to an FSM practitioner, Denise Curtis, and FSM. I will never forget my first appointment. The actual

effort of getting to the appointment was overwhelming, and I was a shell of a person when I shuffled into that room.

What I loved about this modality of treatment was the fact that after one or two minutes of running a frequency, it was evident whether or not it was going to work. After the first session, I felt a lightness in my physical body, but also in my mood. I actually began to see a light at the end of the tunnel, and I felt that I was in good hands. FSM is so amazing. The illness, disorders, and injuries it can treat is endless. I had ten or twelve more treatments over a few months, and my overall pain level did go down.

My injury was complex and chronic. By complete coincidence, Dr. McMakin was in Ireland around the time I first started getting treated with FSM. When I met her, she examined me, and it was this meeting and the events that followed that led to my near full recovery. I was so confident in FSM as a treatment and Dr. McMakin as a practitioner and person that I flew to Oregon from Ireland and worked with her for three months. She developed a tailor-made recovery program for me. It was FSM and the work of Dr. McMakin that saved my life. I regained my quality of life, my work, and my sporting and social life. FSM is a powerful and diverse tool that is administered by hugely experienced and caring practitioners who treat their patients with kindness and respect. Its applications are endless. I cannot recommend it highly enough.

I was so impressed with FSM that I purchased a HomeCare unit that I use not just for helping with pain but also for improving my mood, sleep pattern, and my skin.

Having gone to over 1,500 appointments, seen sixty different practitioners and doctors, and tried twenty-five different modalities of treatment, from acupuncture to hydrotherapy, FSM is the most effective, long-lasting, and powerful treatment that I have ever used.

I was out walking yesterday around Dublin and totally by accident I went down the street were the National Training Center is. Immediately I thought this was where I first got treated with FSM, and it was the place where I first met Denise Curtis and Dr. McMakin. It actually made me a bit emotional. I was with my new boyfriend and it sparked the whole conversation about this crazy journey that I've been on. I was overwhelmed by a feeling of gratitude —how I was so grateful to have met these people and how grateful I was to be able to stand outside that building and tell someone the story, and be able to smile about it, and look back on it thinking that I was in some ways happy that this whole thing happened to me.

▪ **Mylene T. Huynh,** MD, MPH

▪ **Stephen J. Sharp,** MD, Neurologist

Integrative Medicine Physicians

Wounded Warriors Pain Care Initiative, Walter Reed National Military Medical Center

We were introduced to Dr. Carolyn McMakin's work in October 2015 through a good friend. After reviewing the first two chapters of her book, *Frequency Specific Microcurrent in Pain Management,* detailing the historical use of microcurrent in American medicine dating back to the early 1900s, explaining its function in terms of quantum physics, and the objective findings of interleukin-level changes after FSM treatment sessions, we were convinced that we needed to learn this technique so that we could expand the services to the care of wounded warriors.

In January 2016 we attended the FSM Core training held at the Cleveland Clinic in the middle of a freezing blizzard. One of us had a frozen shoulder for at least three months and volunteered as the first demo patient. After a very brief microcurrent treatment, there was immediate 75 percent improvement in range of motion with a 50 percent reduction in pain level. Another impressionable moment occurred when we witnessed the treatment of a patient in his early twenties, with severe traumatic brain injury from being struck as a pedestrian by a moving vehicle several years previously. He presented with unsteady gait, poorly coordinated arm movements, a violent intention tremor, and difficulty speaking. After two treatments, there was remarkable improvement in all four areas. In fact, the next day his mother commented that he was able to hold and drink from a water bottle for the first time since the accident.

As integrative medicine physicians in the flagship military hospital, most of our patients have chronic pain from the rigors of deployments and traumatic injuries. One of the major challenges that we often face is the availability of appointments due to high demands for acupuncture. We were looking for a tool that could be an adjunct to acupuncture and potentially provide longer-lasting and broader treatment effects.

Since initiating FSM, we have noticed this to be the case, and especially beneficial, in addition to pain management, for many of conditions that accompany chronic pain including wound healing, neuropathy, chronic regional pain syndrome, gastroesophageal reflux, and even urinary incontinence. Nearly all patients report that the FSM concussion protocol provides a "reset" from the traumatic experience to initiate the healing process. We have attempted to include FSM in the treatment of our patients

with PTSD, but the length of the protocol has made it difficult for repeated treatments and measurable effects. Overall, feedback from our patients has been tremendously positive when combining FSM with acupuncture or as a stand-alone protocol, especially for patients who prefer a no-needle approach.

Our initial successes with FSM have led us to include it more frequently in our integrative health approach to care for patients who suffer from brain injuries or chronic pain. In the future, we would like to document a case series of FSM successes to expand the medical options for care of pain patients, including the wounded warriors.

The opinion and assertions contained in this presentation are the private views of the authors and are not to be construed as official or as reflecting the views of the United States Air Force, Army, Navy or the Department of Defense.

▪ **Roger Billica,** Physician

"If the clinic catches fire and you only have time to grab one thing, please rescue the FSM equipment." This is the instruction I gave to my staff a couple years ago in all seriousness. I knew that if something happened, I could always rebuild my health care operations using the amazing versatility of FSM.

Ever since I came to understand the potential of using FSM with a wide variety of illnesses and injuries, it has become a mainstay for just about everything we do in our integrative medicine facility. While I have realized that the FSM technology absolutely excels in correcting tissue imbalances with sports injuries, bone fractures, and other physical therapy situations, our clinic is a functional medicine clinic that deals mostly with chronic illness, unhealthy aging, and degenerative conditions of all ages. Therefore we have learned to incorporate FSM in a wide variety of conditions, including:

- reducing inflammation and pain with arthritis and infections
- providing support and balancing to the immune system with cancer, autoimmune, and allergy patients
- reducing the impact and toxicity of infections and environmental toxins
- restoring brain function in those who have had stroke, traumatic brain injury, and concussions
- calming anxiety and reducing stress symptoms while also being able to support tired adrenal function

- dealing with patients who are negatively affected by electromagnetic radiation or who have multiple chemical sensitivities
- supporting dopamine levels in older patients with Parkinson's disease, young patients with ADD/ADHD, and aged patients with drug addictions

In our clinic we regularly use the FSM to provide critical support to physical and emotional healing for our patients as part of an integrated strategy that typically involves nutrition, IV therapies, detox, hyperbaric oxygen, nutraceuticals, and other modalities. However, there are many times where FSM serves as a stand-alone therapy that is able to correct a difficult challenge where other therapies have failed:

- The woman who suffered from terrible headaches for years and now was addicted to chronic-pain medication. She received no help from famous clinics and specialists around the country. Her problem was solved fairly quickly by using FSM to neutralize a chronic virus inflammation of her dura (the fibrous membrane that surrounds the brain).
- Several patients with chronic interstitial cystitis (bladder inflammation) whose lives were devastated by ongoing pain and misery with no hope of recovery. FSM proved to be a very effective therapy and was able to bring complete resolution of the problem.
- People who are recovering from surgery. The FSM can be used to remove the aftereffects of anesthesia while speeding up the tissue healing, reduce swelling and inflammation, and minimizing pain. We recommend it to everyone for their postoperative recovery.
- Anyone with acute shingles. It is simply amazing to watch the shingles go away in a couple days.

There are many more examples. But trust me: if the clinic catches fire, I'm going for the FSM equipment before anything else.

▪ **Mary Ellen S. Chalmers,** Dentist

My FSM experience began in July 2006 when Sandra Magin, an Oriental Medicine doctor, treated my daughter Christen's soccer injury, and the results were phenomenal. Dr. Magin said she felt there were applications for dentistry and encouraged me to take a training course. As the first dentist ever to take the Core Seminar in December 2006, I could immediately see a wide range of

uses because of the profound effects. At lunch on Sunday, Carolyn McMakin sat down next to me and asked, "Are you going to treat TMJ with this?"

My response was, "Carol, if all I do is treat TMJ, I've wasted your time and squandered an opportunity for dentistry."

I purchased an AutoCare unit at that conference, and Carolyn taught me how to manually deviate from the preprogrammed protocols, to customize the frequencies for use in dentistry. To run FSM intraorally, I used wet gauze four-by-fours attached to the leads with alligator clips, sitting beside the patient and entering in the frequencies manually. Beginning with a dental-implant surgery patient, I saw tremendous results. This patient's sister had implant surgery the previous year and experienced a lot of swelling, bruising, and pain. The FSM oral surgery protocol, applied within the four-hour post-trauma window, resulted in complete elimination of swelling and bruising and a dramatic reduction in postoperative pain. While I could observe the surgical site with incisions and sutures, there was no other evidence of the procedure. Her husband was so impressed that he wanted the technology so he could help his racehorses.

The next profound result was with my daughter Jackie's orthodontic treatment. The initial stage of orthodontic treatment with full braces is very painful for the first few weeks, and then for a day or two following subsequent adjustments. Within a few hours of having Jackie's braces applied, she ran the "new injury" protocol with a HomeCare unit, just to see what would happen. She had no pain or discomfort. She ran the protocol once daily for a week, then occasionally over the next couple of months. Jackie missed her first follow-up at six weeks after placement, not getting back to the orthodontist until two and a half months later. At the end of the visit, the orthodontist came to speak with me, saying Jackie looked great and was progressing so quickly that she would be placed in rectangular wires the following month—something that typically does not occur until six to nine months into treatment. We started to leave, but Jackie's progress stunned me. I turned back to the orthodontist, explained FSM, how Jackie was using it, as an explanation for not only the lack of pain but also the acceleration in tooth movement.

Her response was, "That doesn't make sense. We need inflammation to move teeth."

I replied, "But what if we don't?"

Jackie completed a projected two-year treatment in fifteen months, with pain following one adjustment when FSM was not used. I feel blessed to have this wonderful technology to help my patients and enhance my practice.

—Mary Ellen S. Chalmers, DMD, IFMCP

▪ **Jennifer Sosnowski, MD:** Patient and Physician

FSM saved my life—literally. I met Dr. McMakin the first time when she was exhibiting at an Institute of Functional Medicine meeting. At the time I met her, in May 2010, I had been suffering from six years of daily migraines, since mid-2004. As a family physician, I knew what to do about them from an allopathic perspective, but it didn't work—and all any physician I saw wanted to do was put me on more drugs, or on Botox, which was a neurotoxin. Now, why would I add that to a brain that already wasn't working as well as I wanted? I had chronic fatigue, brain fog, depression, and fibromyalgia along with the migraines.

After three years of trying options and taking numerous drugs, which kept the pain low enough that I could go to work every day, but was not fixing me, I found functional medicine. I started a gluten- and dairy-free life in September 2009 and had a five-day migraine withdrawing from gluten. Obviously it was a big problem. But instead of the migraines resolving as I expected, they just changed. Now they were an 8 out of 10 sharp stabbing pain, usually worst in the morning rather than scattered throughout the day. Driving up the coast of California to the IFM meeting that May morning with a splitting headache in spite of all my meds, I was suffering my second severe bout of suicidal ideation: "I could just drive off the cliff right now and end this pain. No one should have to live with this pain," I thought to myself. I managed not to do it.

That day at midday I met Dr. McMakin. She was offering to treat people for free with her microcurrent machine, and so, without any hope of success, but on the off chance that it would at least do something to alleviate the pain, I took a free treatment. I told Carol what had been going on, and she immediately said, "I know exactly what you have: cervical trauma fibro. I know exactly how to treat it."

My inner voice at the time said, "Bullshit. I've heard that before." But she was right. She treated me for about forty-five minutes to an hour with FSM, and while the headache didn't go away that day, the next morning I woke up and I had *no headache.*

For the first time in six or more years, *no headache.* And the headache-free state persisted for a week until I decided all of what I had learned at the IFM meetings didn't pertain to me, and I had a dinner of smores at a relative's house—gluten, dairy, and lots of sugar, all big stimulants for my migraines—and the next morning I had a doozy of a migraine again.

OK, so it was both functional medicine and microcurrent that I needed, I got that now. I saw several microcurrent practitioners in my area for several months, then went to a microcurrent class and learned how to do the treatment myself, and bought a couple machines, for my office as well, and within six

months, as of October 2010, I was back to being the high-level, athletic, full-of-energy physician that I had been prior to 2001. And to top it off, in February 2011, within a month of my husband being back from a four-month stay overseas, I was pregnant, unexpectedly, with my first child, at forty-two years old. This was something that never could have happened without Carol and FSM.

Now with two kids, a fabulous husband, a busy FSM practice with "microcurrent for everyone," we are creating healing miracles on a regular basis. Thank you, Dr. McMakin: I owe it all to you and FSM.

▪ **Kim Pittis,** Sports Medicine Practitioner

I'll never forget when I saw my first FSM CustomCare. As a manual therapist, we are trained to treat soft-tissue conditions with our hands and inherently frown upon devices of any size and shape. My distaste for electrotherapy was the driving force behind my choice to go into manual therapy as opposed to physiotherapy, which left me alone in a room with an annoying TENS device when I was rehabilitating from a major car collision years prior. This little CustomCare device was tethered to an athlete who claimed it was helping his legs recover from training and would help his rehabilitation. I blinked a slow blink and walked away. Impossible. How could that little thing do what my skilled hands could do?

Some months later I was at a facility working with elite and professional hockey players with a sports chiropractor and manual therapist I have respected for years. And there was this little CustomCare again. Just as I was about to poke fun at the poor soul who wasted his money on this magic machine, the doctor said he was so excited that he had this device. I kept my mouth shut and my eyes and ears open. I watched as the he put on the gloves and treated this guy's neck, which was plaguing him with pain, restricted range of motion, and major post-concussion symptoms. The player became relaxed, glassy-eyed, and eventually fell asleep in minutes, and the tissue that was being palpated and manipulated was turning into this gelatinous mass. I literally couldn't believe what I was seeing. Now it was making sense: FSM *with* manual treatment.

I went home, researched FSM seminars, and life as I knew it would be forever changed. In the seventeen years I have been practicing, I can honestly say that the years I have practiced with FSM are hands down the best years of my professional career. I have healed, repaired, rehabilitated, and given hope to those who had none. I've felt tissue change within seconds that shouldn't be possible. I've seen post-concussion patients who hadn't smiled in months

leave a treatment smiling. I've put athletes back in the sport they love, weeks before they should have. I've helped chronic pain patients get off all their pain meds and get their lives back. These and so many more stories could not have been possible without FSM.

FSM took what I believed in manual therapy and rehabilitation and rewrote the story. I continue to learn and grow as a therapist and now as an instructor with every treatment I give, every case study I hear, and all the results I see. I truly feel it is my journey to do everything I can for the betterment of this modality and field, and it is my passion to see FSM where it belongs to be.

▪ **Dan Nafziger,** Physical Therapist

A fifteen-year-old female presented with a diagnosis of congenital tethered-cord syndrome. Surgery was done when she was twelve years old to release the tethered cord, and the patient was released to recover and get on with her life. Because of her ethnicity, she was involved in competitive Tahitian dancing, and even though she had a small amount of improved active range of motion (AROM) of her spine following the surgery, she continued to have pain and related muscle-guarding spasm of the muscles of her entire back. This limited the amount of time she could practice due to the spine pain from to the limited AROM of her entire back in all movement planes.

At age fifteen she was involved in a motor-vehicle accident that further complicated her pain and limited AROM and the other symptoms present prior to the accident. The increased symptoms made it nearly impossible for her to participate in dance practice and performances.

She was initially referred to physical therapy close to her house, but the treatment consisted mostly of exercise, which exacerbated the problem and increased her pain. She was then referred to me. I initially treated her with the usual modalities, specifically with strain-counterstrain, an osteopathic treatment method developed by Larry Jones, a doctor of osteopathic medicine. This helped a little, but it was clear this would not be enough. At that point, I knew she needed a more specific way to get to the problem.

Reasoning that this was a neurological issue at its root, I then treated her with FSM using the frequency protocols for treating the dura. I polarized the current to positive, using 200 microamps at medium wave slope and used the frequencies to reduce inflammation in the nerve and inflammation in general for five minutes each. Then I used the frequencies to reduce scarring in the nerve and the fascia for five minutes each. Then I switched to the frequencies for scarring in the dura, the spinal cord, and the nerves for three minutes each.

The patient was seated with the contacts around her neck and on the bottoms of the feet. The patient began active spine range of motion (ROM) in the seated position while the frequencies for scarring in the dura and the spinal cord were being used. She flexed forward until it felt tight, then returned to neutral, and then flexed again. She rotated her trunk as far as she could and rotated back to neutral. Each time she moved her range of motion increased.

As the treatment progressed, the patient went from a maximum of eleven degrees of forward flexion of her trunk to being able to touch her chest on her thighs within comfort within forty-five minutes.

At the completion of this I had the patient lie on her back and ran the frequencies for reducing inflammation in the nerve and reducing general inflammation (40/396, 116) for ten minutes each. You can only imagine the emotional reaction of the patient, her grandmother who accompanied her, and me when she was able to touch her chest to her knees. For the first time in this young woman's life, she was able to do what other normal people could do.

This increase in AROM was maintained over time and did not revert back to pre-treatment restriction. This was the beginning of her physical and emotional recovery. Having been a practicing physical therapist for over thirty-five years at that time, I was awestruck by the results of this one treatment with this protocol. It has forever changed how I look at treating patients. I am most grateful for FSM and what it lets me do to help my patients.

▪ **S. J. Sutton,** Sciatica Patient

I arrived at Bud and Sandy's Energy Wellness Center in West Plains, Missouri, on a cold damp December afternoon after begging for an emergency appointment. I was encountering pain of astronomical proportion. Every part of my being was in painful crisis. I had been in nonstop sciatic pain for four days that was escalating by the hour. I was bent over at the waist racked with pain that I could only explain as feeling like twisted barbed wire being tightened beyond imagination that would lessen with deep breathing then return again worse than before. It came in the night, during the day, sitting, lying or standing, without warning or reprieve.

My body had been slowly degrading for several years, explained by medical doctors as part of the aging process. Now the scales were tipped beyond what I could rebalance on my own. Medical doctors as well had few answers except for surgery. Sciatic nerve surgery appeared risky. Paralysis

was reported among unsuccessful surgery side effects. Surgery was clearly not a viable option for me.

I had experienced sciatica before. The episodes would last for a couple of days, and it was contained to the right hip and leg. I recognized the sciatic onset immediately. Once you have experienced it, you recognize its familiar signature. Yet this episode had complex symptoms that involved every part of me. I was so bent over that I had resorted to using two canes to get around or using a wheelchair as I could use my feet to pull myself around and stay bent by leaning forward. I was trapped and unable to escape. Nonstop tears of pain and grief mixed into a physical-emotional stew that was foreign to me, not found in over two decades of working with clients in emotional distress and physical pain.

Having a doctorate in alternative healing, this was surprising because I could not stop what was happening with anything I knew to do. My body had degraded so gradually that I hardly noticed until I hit this total collapse.

At the end of the very first emergency treatment at Bud and Sandy's Energy Wellness Center, I got off the table and was able to stand erect without pain. The pain that had immobilized me was gone. It was miraculous how my body and emotional system had righted itself, leaving me surprisingly euphoric. Bud told me that it would take time as sciatica was a difficult condition to deal with. He was right; the pain slowly crept its way back into my sciatic nerve, and thus a series of treatments were outlined, and I returned seeking a sustainable recovery.

With Bud Haven's personalized FSM protocols, my symptoms began to disappear. Not only the sciatica but also many lifelong issues began to clear as well. It has taken two series of treatments over six weeks of therapy to resolve the sciatica. We are now moving on into long-term heart issues, diabetes with pancreatitis propensity, liver dysfunction, and dealing with one functioning kidney.

I truly believe Bud and Sandy's Energy Wellness Center has and continues to give me a restorative new life. It is my desire to study with both Bud and Sandy to add personalized FSM protocols to my practice in an endeavor to help others achieve sustainable recovery from unnecessary pain, without surgery or drug therapy.

▪ **Margaret Taylor,** Practitioner and Patient

Living in Connecticut, I knew about Lyme disease but had not yet realized the magnitude of illness that one tiny tick could cause. In 1999 I became acutely aware of a harsh new reality. Literally overnight, my son became seriously ill

with Lyme meningitis. Later, he developed chronic fatigue syndrome and then fibromyalgia.

My life as I knew it was forever changed. The fallout from chronic illness did not only affect the patient. As a parent, seeing my child suffer was unfathomable. Our physicians were supportive, but there were battles with school systems and appeals to insurance companies. Friends and family went on with their own lives. In our case, the effect on the family unit was devastating.

It is no wonder that during this period of heightened stress, I began to feel old at age forty-two. It came on gradually, until one day it hit me. What was wrong with me? Did I also have Lyme disease? I was in pain all over. I was exhausted. Not just tired, but unable to lift my head off the pillow. I was struggling to work full time and take care of my disabled son and elderly mother. Going to the pharmacy and the grocery store in one trip became impossible. I had to choose one or the other. Eventually I became completely disabled. My positive, never-give-up attitude is what saved me—and led me to FSM.

I had reached out to several physicians, asking about their experiences with treating people with persistent Lyme disease, chronic fatigue syndrome, and fibromyalgia. A compassionate physiatrist called me, just to talk, listen, and provide encouragement. I became his patient.

I learned that this doctor and a physical therapist were using an alternative modality that was showing promise. They were using FSM with only a few patients, and they wanted me to be one of them. The physiatrist described how it worked: they would take wires with positive and negative current, wrap them in damp towels, place them around my neck and feet, and then turn on the machine. I clearly remember my response: “I don’t think so. Let me see you do it first. If you live, I’ll consider it.” He lived.

Treatment with FSM dramatically improved my health. Not only was I able to return to my full time job, but I added working overtime on third shift for three years while going back to school for twenty months to become a licensed massage therapist. Once I was licensed, I trained as an FSM practitioner, and then became a certified FSM instructor.

I retired early from my twenty-nine-year career with the State of Connecticut Department of Developmental Services to start my own part-time private practice, including using FSM. I have a thriving practice with fiercely loyal clients, many of whom have experienced firsthand the benefits of FSM. When conventional medicine had no answers, FSM provided hope of recovery.

I am forever grateful to medical doctor Randy Trowbridge and physical therapist Mary Maloney for their knowledge, compassion, sense of humor,

and persistence in helping me to fight my way back to health. Through them I met Carolyn McMakin, learned the intricacies of FSM, and found a new exciting career that never feels like work.

▪ **Marlin Lance,** Practitioner

PARSONAGE-TURNER SYNDROME CASE REPORT

Parsonage-Turner syndrome can begin with severe shoulder or arm pain followed by weakness and numbness. Affected muscles become weak and atrophied, and in advanced cases, paralyzed. Some neurologists think that this is the most painful condition in neurology. Despite its wasting and at times long-lasting effects, most cases resolve themselves, and recovery is usually good in eighteen to twenty-four months, depending on how old the person is.

His primary care physician referred the twelve-year-old boy to me for treatment. He developed Parsonage-Turner syndrome a few days after getting hurt in a baseball game. He could not sleep during the night except for brief moments and was unable to go to school because of the ongoing pain. An orthopedic surgeon told his mother there was no known treatment, and he should be prepared to deal with the pain for up to a year or until he grew out of it. This angered his mother, needless to say, and she sought further opinions.

The excruciating, intolerable pain ran from the right shoulder girdle down his arm to his fingertips. Loss of mobility progressed to complete paralysis. He supported this arm with his left hand and was resistant to physical touch due to the severe pain. There was noticeable wasting of his muscles in the shoulder and down his right arm to the elbow.

I discussed a suggested course of treatment using FSM followed by slow, passive range-of-motion exercises for the shoulder and elbow when he could tolerate it. His mother helped me prep him for FSM treatment by carefully placing wet conductive towels around the shoulder and wrist. We gently lowered the left side of his body onto a chaise longue while she carefully supported the affected side.

Due to his small size we reduced the level of current for his treatments. I ran the standard concussion protocol, and then treated for nerve pain and inflammation. We closed the first session with frequencies for emotional relaxation and balance. He was sent home to continue hydration that evening and to relax as much as possible until bedtime. His mother was to call me if any side effects occurred.

He returned to the clinic the next morning and was feeling better. His mother reported that he fell asleep around 9 p.m. and slept until 9 the next

morning. She was excited to see him starting to heal. There was a slight increase in range of motion without pain. We treated with the nerve inflammation protocol again and finished the session with frequencies for emotional relaxation and balance, and he was to return the next morning.

He was late the next morning because he was sleeping so soundly that mom did not want to wake him. We repeated the same protocol, treating nerve inflammation, and finishing with emotional relaxation frequencies.

The next day was remarkable. He was walking down the hallway to my office, moving very slowly, holding his right arm with a sad look on his face. When he saw me he stopped and started laughing as he moved his arm with full range of motion. The attending physician saw what was happened and ran out of her office, shouting, "Oh, my God, we have seen a miracle. Parsonage-Turner syndrome resolves in eighteen to twenty-four months, not in five days."

His mother was beside herself. He had no pain and full range of motion with good sleep, and he was eating better. We finished the session by treating the nerve and soft tissue. He returned a month later for follow-up. He was riding his bike and looking forward to baseball season. His physical therapy was complete, and he was gaining weight. His mother said he was our poster child for FSM.

Six months after treatment, he was still pain-free with no weakness, muscle-wasting, or any of the other issues usually seen with Parsonage-Turner.

▪ **Tammy Woller-Li,** Chiropractic Physician

FSM is a no-brainer. I have been a chiropractor since 1999. I started using FSM technology in 2006 when my employer at the time thought it would be beneficial to increase the tools we use to treat patients. She was always looking for the newest and latest. We did work with Jeff Spencer, and he recommended it, so we figured it was worth a look. The take-home was significant, and I couldn't wait to implement it into our already busy practice.

Within a couple of weeks, my first shingles patient came in. I had never treated this before, but one of my professors early on instructed us to always use confidence and believe in what you are telling a patient, so I told the patient, "No problem; this is a slam dunk every time." I then hooked up the FSM and prayed that it would work. Medical professionals can prescribe medications to help with the nerve pain, but there is nothing that can get rid of shingles.

The patient left and called back the following day that his symptoms were pretty much gone. I recommended one more follow-up treatment. I hung up the phone and did a happy dance.

Since then, we have successfully treated numerous shingles patients with success. FSM has increased what we can treat, and it is truly a no-brainer.

FSM has been a life changer: we have been able to alter lives and to improve one patient at a time. I no longer spend money on advertising. Even better, many of my chronic patients have been able to buy a CustomCare unit that I can program specifically for them to manage their pain. They no longer need to see me two or three times a week. They heal faster, and the referrals I get from these patients are amazing.

In addition to the shingles cases, we have been able to treat patients who have PTSD, and the results are substantial. I find this in military personnel but also in many patients who have encountered physical loss or trauma of any type. If a patient isn't healing, there is generally a reason, and that reason needs to be found and addressed. This can be a death in the family, abuse cases, abandonment, and chronic pain. Many times the patient has been to a number of doctors before ending up in our clinic, and this is where we start.

FSM has no adverse side effects, so either it works or it doesn't. Many times it will take me a bit to find the correct treatment or frequencies for the treatment, but once the correct combination is found, a chronic pain patient can be quickly turned around. Have I already said it—FSM is a no-brainer?

Of course it is essential that the patient is well hydrated, but beyond that, it works beautifully. Children love the treatment because they can watch a movie while being treated, and there is nothing shocking or painful about the therapy. For this reason, we can easily treat babies and pediatric patients.

Looking back, FSM is one of the tools I couldn't do without.

I would have to say that one of my favorite treatments was on a staff member. This individual was always a little cranky and not a team player. This particular day she had some neck pain. I had a couple of extra machines, so I ran a little "happy juice" (emotional frequencies) in addition to the other treatments, just for the fun of it. I didn't tell her or any of the other staff what I had done. Soon after the treatment, this employee was all smiles and very helpful with doing the laundry. She was energized and enthusiastic to the point that a couple of staff asked me what I had done, and if we could possibly do it on a daily basis. FSM is a no-brainer!

▪ **Lori Schultz,** Postoperative Patient

I became a patient of Tammy Woller in February of 2014. I received a diagnosis of breast cancer for the second time in six years. Within a week of my double mastectomy, Dr. Tammy started FSM treatment. The drains came out early, and my surgeon was amazed at how quickly I was healing. I started taking tamoxifen after surgery, and within six weeks started having complications with urological and gynecological issues. Three surgeries in seven months and a year of urological and gynecological issues have weakened my body.

FSM treatment got me through the surgeries and the complications. I continue to receive FSM treatment weekly for strength and stamina issues. Dr. Tammy and I have a saying: she patches me up on Saturday so I can get through the week. I often think, Where I would be if it wasn't for Dr. Tammy and the FSM treatment? I am grateful and thankful for Dr. Tammy and FSM.

▪ **Dana Pletcher, DC,** Practitioner

RAYNAUD'S SYNDROME

Imagine a young mother of two elementary school age boys not being able to go outdoors when the weather app says the temperature is less than fifty degrees because her hands and feet turn red, white, and blue as they sting and ache.

Living in Illinois is not great for Raynaud syndrome. Cindy had been diagnosed and evaluated by seven other doctors before coming to seek help in my office. She had given up and resigned herself to a lifetime of pain and praying that her husband's company would transfer him back to her home state of California. All she could do was cover her hands and feet with thick warm socks and gloves for nine months of the year for the rest of her life. For a successful artist like Cindy, this was a clumsy inept crutch at best.

I told Cindy that the other doctors were correct in their diagnosis of Raynaud's, and that they had nothing to offer her in the way of relief. I explained that her body had determined that cold was dangerous, and she had essentially become "allergic" to it. This caused her sympathetic (fight-or-flight) nervous system to overreact and choke off the blood vessels in her hands and feet, much as a peanut allergy closes off the airways in those allergic to peanuts. With FSM we have frequencies for the different types of nerves and blood vessels.

In FSM there is a saying: "Can't hurt; might help. Why not try?" So Cindy and I embarked on an FSM electronic journey. By the seventh treatment there was little need for heavy gloves and socks in the fall. By the final twenty-first visit, it was the middle of winter, and for the first time in her adult life she was

playing outdoors with her boys, throwing snowballs and building a snowman in the yard with no symptoms of Raynaud's.

Does this last, one might ask? It is now three years later, and she is still symptom-free and shoveling her own driveway's winter snow when her husband is out of town. It also needs to be noted that three months after her twenty-first treatment, she was pregnant with her third baby boy after she had unsuccessfully attempted to become pregnant for two years. She and I think it was not a coincidence.

When we desensitized her to being "allergic" to the cold, we calmed and balanced her immune system. To become pregnant, the immune system needs to be calm and not overly vigilant. A baby is, after all, foreign alien tissue, and if the immune system is overzealous, it will prevent an egg from successfully implanting or cause a miscarriage. Every time I think of this patient, or see her posts on Facebook of her artwork, or see that new child who just turned two, I am in awe of what FSM and I have been able to do.

With FSM I have been able to go where no one has gone before. I have been able to help others with conditions that before FSM were relegated to the impossible. My outlook has forever changed. FSM has now made possible what before was impossible, and for this I am grateful and humbled and forever thankful to Carolyn McMakin for developing and sharing this therapy with me and my associate, Jeff Watkin, and our staff.

▪ Phil Wade: Case Reports

Case 1. Scheuermann's Disease

A forty-eight-year-old male with Scheuermann's disease had had the issue since he was about nine years old. He had a plate inserted in the L4-L5 lumbar vertebrae about five years previously and had fractured L2-L3 only two weeks before his first visit. He chose to see me because "my wife made me come." His aim was to do anything to avoid further surgery. During the initial case taking, he was sitting in his chair, twitching with involuntary pain spasms, blood drained from his face, and reportedly in absolute (10 out of 10) pain. He did not believe that I could help him as a pharmacist and naturopath, later reporting that he was cynical about any beneficial outcome from his visit, but was "desperate enough to try anything." He was a high-achieving owner of a large corporation, very intelligent and open-minded, with a matter-of-fact personality. His two sons both had the Scheuermann's gene and were already showing symptoms. He had never been out of pain, whether sitting, standing, supine or prone.

I treated him with FSM for about forty minutes. During the treatment I checked on his pain score. After twenty minutes, the pain had reduced to 0. I completed the MFP protocol. He got off the table in 0 out of 10 pain, his face a normal color.

I supported this treatment with targeted nutrition, as I always do, aiming at reducing calcification, infection, and inflammation.

His pain returned to 4 after a week, and he has had three more FSM treatments since. His pain fluctuates from 1 to 4 out of 10. To say that he is delighted is an understatement. He said that this has changed his life. He is grateful and knew a lot of businesspeople in similar plights as "I spend half my life in boardrooms." He mentioned that there was a surprisingly high percentage of people in similar health conditions in the circles in which he mixes. "Quite a lot of them were awaiting my outcome with interest," as they had noticed and commented on his improvement, such was the difference in his general bearing and demeanor.

Case 2. Ankylosing Spondylitis

The first colleague this patient referred to me was a fifty-two-year-old male suffering from a form of ankylosing spondylitis that he had had since childhood. His body was a banana shape. His condition was slowly degenerating, and his appendicular joints were also suffering to the point where he was reduced to needing a walking stick to get around on a recent overseas business trip.

Medical opinion was that before long he would need to spend a lot of his time in a wheelchair. He was in high-grade pain, and his pain was reduced to a 4 after the first treatment, which was a pleasing result to him. More pleasing still for him was that he found he was also quite mobile, as reported on the second visit. Along with targeted nutrition, he also started to feel better internally, as he also tested positive for high-grade intestinal microdysbiosis ("leaky gut").

After two subsequent FSM treatments, he was almost pain-free, and to say that he was delighted is an understatement. He also was most grateful, saying that this was a life-changing experience. He is due to return soon, following another business trip that he actually thought that he would never be able to make.

Case 3. Slipped Disc

When the publicity first broke about FSM, Metagenics Australia, the original importer of FSM to Australia, referred a woman from Newcastle, about 160

miles north of where my Lane Cove clinic is situated. She was twitching in grade 10 pain, dressed to the nines, and with her daughter assisting her, walked gingerly into the clinic. She was fifty-five years old and had been in this sort of pain for about ten years. Case-taking revealed that she was never out of pain in any position—sitting, standing, or lying down. She was resisting surgery.

We both assisted her onto the table, with great difficulty, and I commenced the FSM treatment. After about fifteen minutes I checked her pain level, and her surprising answer was "0." I continued the FSM protocol, explaining that the pain would return when she got off the table, and the likelihood was that she would need many treatments to effect the cure. To my surprise, when she got off the table, unassisted, her reply to my question was that the pain was still 0. It remained 0 when she walked out the door.

On the following visit, seven days later, it was still 0 when she walked in. I gave her another FSM treatment and it remained 0 all the way through and afterward. She called and canceled the next appointment. I was a bit miffed when I found out, so I called her and asked why. She said she didn't need any more treatments because she felt that she was cured, but would let me know if she did. And she was telling all her friends and anyone else who cared to listen.

Case 4. Russian Former Soccer Player

A fifty-five-year-old male from Russia flew down for treatment, prompted by his daughter, also a client, who flew over from Fiji for treatment. (His daughter, Larissa, left her high-paying job as a travel consultant, studied remedial massage, and became an FSM practitioner, now practicing on the Gold Coast.) He had high-grade infection and pain in his left knee, having had three unsuccessful surgeries in Russia over the years following a soccer injury as a young man.

His occupation as high-grade academic and technician was essential to his community. Doctors had recommended amputation to reduce the pain. He wanted to keep his leg.

He was only to be in Australia for three weeks. I commenced an intensive course. Treatments were to be every second day. His condition began to improve, but he was nowhere near cured after two weeks. The third week they were to tour Australia via Melbourne, Adelaide, and then the Gold Coast in Queensland. I arranged for him to visit FSM practitioners in each city on his trip, noting the frequencies and timing that I had been using for their benefit. Then he was to return for one final treatment after his tour was concluded, prior to leaving.

He walked in on that final day, having returned from his tour, wincing and limping. My blood ran cold. Was this really all for nothing? Then he grinned, threw away his walking stick and strode the length of the pharmacy and back with a healthy, even stride, stating that he was now in grade 0 pain. I refused to charge them for my last few treatments, as what he and his formerly cynical wife said and presented me with was worth far more than money.

▪ **Vicki Barts,** Practitioner

STOPPED-UP EAR

I don't think I have a life-changing story, but my son, who was fourteen years old at the time, might say it was. He had a stopped-up ear for about two weeks before he finally mentioned it to me, while he was explaining the reason he did not hear my instructions. Anyway, once I realized this was an ongoing problem not resolving by itself, I ran a frequency protocol for eustachian tubes, based on the one developed by Todd Robinson.

About two hours later my son called down to me from upstairs. "Hey, Mom! My ear is finally open." And life for the fourteen-year-old got much better.

▪ **J. W.,** Patient

PAIN AND DEPRESSION

Following a difficult and troubled childhood, I have suffered from PTSD and depression for all of my adult life. I regularly experienced panic attacks, paranoia, anxiety, and mood swings. I took antidepressants for many years to combat the symptoms, but they were only marginally effective and were limiting.

Leading up to my daughter's birth, I experienced many of the symptoms of pre-eclampsia and suffered from insomnia for the entire last month of my pregnancy. Following a challenging birthing process resulting in a C-section, my body didn't readily recover from the symptoms that had set in during pregnancy. Immediately following delivery, I was experiencing edema and postpartum depression. Within days of my daughter's birth, my chiropractor, Tom Patterson, introduced me to FSM.

Over the course of a few treatments, the swelling in my body quickly and steadily dissipated. I was able to sleep, and the postpartum depression began to wane. I was able to see more clearly my worthiness to push through the situation to a more manageable mind-set.

Just under two years later, our next experience with FSM treatment came following a car accident. After having been advised by another chiropractor that we were likely to need a lengthy treatment regimen, combining FSM and chiropractic treatment, I recovered in less than six weeks of therapy, and my husband recovered in less than three.

I've had occasion to use FSM since and have found it to be an incredibly positive experience. It has helped me tremendously over the past eight years.

▪ **Dolly Erickson,** Practitioner

In 2002 our office took the Core Training, bought a blue box, and began using FSM in our office. Our family practice is primarily allergy and sensitivity elimination. We found a variety of ways to use this amazing FSM technology.

We have felt the warming, smooshing effect of finding the absolute correct frequencies with latent mononucleosis virus in muscle, TMJ pain, and a multitude of tissues. The speed with which a broken clavicle healed surprised us, but the young man who experienced it knew it worked, and was ready to resume surfing, wrestling, and mowing the yard within a week of the injury. The amazing recovery of a teen diagnosed with RSD and desperate for relief confirmed our opinion that FSM does indeed work. Within two treatments he was twirling his hand around in amazed relief.

Our experience with postpartum care has been amazing. Each of my seven grandbabies and their moms have benefited from using FSM postpartum with amazingly rapid recovery from gentle births to third-degree muscle tears. Our cesarean birth clients have marveled at the pain relief and return to normal life following a surgical birth.

We now wonder how any practice can successfully assist the body to heal without FSM.

▪ **Daniel Knebel,** German Sports Therapist

I was introduced to the field of FSM in 2008 by a physiotherapist, Bauke van der Velden, from Wuppertal, Germany. At the beginning I only used auto-programs and was still very amazed by the results.

I used it for knee pain, shoulder pain, sciatica, and so on. Nearly every condition got better under the influence of this wonderful energy.

In April 2015, I was in the gym when my phone rang. My wife said that Carolyn would come to Fulda, Germany, in May. My birthday is May 2, and to go to Fulda to learn FSM was the best thing I had ever done in my whole

life. I was a bit late, and the course had already started. During the first fifteen minutes it became clear that the translator was not able to catch up with Carolyn's speed of talking and density of information. In the break, Heinz Reinwald, a very nice man and an expert in FSM, came to me and asked if I could try to translate for Carolyn. I was very happy. One field of my former studies was translation, and I translated many seminars for the strength coach Charles Poliquin.

So I started to translate for her, and all I can say is that it was wonderful. Carol is not only very educated but also a humble and kind human being. She is brilliant. During the seminar we worked together fluently, and by translating and assisting her with practicum demonstrations, I was able to learn the information in record time.

After the course, my mind was blown. I started to treat myself with the frequencies. My right knee had ACL and meniscus damage from an old football accident, and I was not able to fully flex it. After one treatment my knee felt good. I got up from my desk, and it made a sound and felt like it would rearrange itself. From this point on I am pain-free and able to sit on my heel with no problem.

The second person I treated was a shoulder patient with full rupture of all tendons. After surgery we started FSM, and he was able to fully move his shoulder after eight weeks. The doctors said he would not be able to move his arm overhead forever. Now he is playing tennis with eighty-five-mile-an-hour serves.

Another patient showed up with shingles. After two treatments the lesions were gone and he had no pain. Normally the pain is so severe that it is hard to endure, even with medication. The normal shingle patient has twenty-eight to fifty-six days of extreme pain. FSM killed the herpes virus very effectively in two days.

A soccer player came to me after labrum surgery and was not able to fully move his arm. Shoulder flexion, extension, abduction, and external and internal rotation were severely limited. After forty minutes he stood up and had full range of motion in all planes. I recorded a video of the before and after results.

One young woman came with severe acne on her back. Three treatments with FSM, and the acne was gone. In her case and in many others I use a holistic approach and combine FSM with supplements, nutrition, and acupressure.

A high-profile soccer manager was not able to lift his left knee for two years because he fell on his back and had a prolapse. I treated him forty minutes. When he got up from the bench, I said, "Let's try it." He lifted his

left leg up to his ear and nearly fell of my treatment table because he was so amazed.

His partner showed up as well; he had cervical spine surgery, and his neck movements were painful and also limited on all planes. After forty-five minutes he stood up and was able to move his cervical spine pain-free in all planes. He was also very impressed.

A soccer player had a limited hip rotation on both sides. Doctors said he was born with it. I treated him for one hour, and his hip rotation was normal.

A female client had big-toe surgery to correct a bunion. She came for treatments and was able to jog after four weeks; normally recovery takes three months. She had a second surgery on the other foot but was not able to do FSM because of family issues. The foot didn't heal properly, and she needed a second surgery. It became clear that FSM was the only major difference between the two results.

Robin Seidl, a beach volleyball player from Austria, came to me to treat his golfer's elbow, which is essentially a micro-tear of the pronator teres tendon. It got much better in two days of treatment, and he just called me from the Rio Olympics to thank me because of his amazing recovery. The combination of FSM with my training systems allowed him to jump four inches higher in four weeks.

A man came to me with a severe hand injury. He had hit his hand on a metal pole and cut one of his finger tendons lengthwise down the tendon. It was a rare and complicated injury. After surgery he came to me with a swollen red scar and was not able to move his fingers. Two treatments later, the swelling was gone, and he was able to move his fingers properly.

One time a client showed up with a dog that had a disc prolapse with complete paralysis of its rear left leg. After one treatment, the dog was able to run and use its left leg again.

These are only a few examples of what FSM and the person who uses it are able to do. Basically everything can be improved. I use a holistic system of treatment. Every system in the body interacts with all other systems, so if you have bad posture, this can influence nerve and organ function. If you don't follow proper exercise and nutrition for rehab, FSM alone won't bring you back onto the field.

So I always use structural balance assessments, sport-specific tests, BioSignature Modulation, EndoBalance, functional medicine, acupressure, and active release technique (ART), among many others, along with FSM.

I strongly recommend everyone to learn FSM. FSM is pure magic and can make a huge difference for people suffering from a variety of problems who have been told they cannot improve.

Frequency Specific Microcurrent Stimulation (FSM) in the Treatment of Macular Degeneration (MD)

By Laurie Chaikin, OD

Mr. A was a self-made man with dreams of getting a yacht and sailing around the world, except for one problem, he had just been diagnosed with macular degeneration in one eye, and the ophthalmologist was recommending an injection into the eyeball. Mr. A did some investigation and came across my research article showing promising results with FSM. He arrived at his appointment carrying images from the ophthalmologist showing fluid separating the layers of his retina causing the reduced vision.

Mr. A's vision was reduced to 20/40 in the left eye. He was just at the beginning stages of the disease and I felt he was an excellent candidate to do a trial of microcurrent before doing the injections. I developed a custom program for him after examining the imaging (OCT or optical coherence tomography). Specific frequencies were selected which target the tissues involved in the disease process. Since he lived about two hours a way we decided it would be best if he rented a programmable unit for the first month. I instructed him how to use it on his own, placing small gel electrodes along the upper and lower eye bones and running the program five days a week for 30 minutes a day.

After a month Mr. A returned with a new image from the ophthalmologist. He described the doctor's surprised reaction at the improvement and his query about what was causing it. Mr. A told him about the microcurrent treatment. Images taken pre-FSM treatment show a layer of fluid separating the layers of the retina. The new image taken after just three weeks of FSM treatment shows almost no fluid. The vision in that eye was now 20/25.

After four months of FSM treatment the retina continues to look very good, the need for injections has been postponed and his vision is back to normal. Mr. A is quite relieved, continues FSM therapy and is shopping for yachts.

A Final Note

There wasn't room here for all of the case reports and all of the stories. If you're interested in more resonance effect stories, you'll find them at www.theresonanceeffect.com .

Afterword

FSM Goals

- to reach every patient who wants to be helped
- to train practitioners who can treat them
- to practice, promote, teach, research, and write about FSM in such a way that it survives and thrives

The resonance effect has brought relief and hope to so many thousands of patients, maybe millions by now. These are patients with no hope, who were untreatable, like Shawna, who had RSD and fibromyalgia and recovered. When Shawna left, it occurred to me that if she alone was the only reason for me saying "yes" to the call to go back to school at forty, and if she alone was the only one who had been helped by the frequencies and all of the hours of work and travel, it would have been worthwhile. Everyone treated since her has been a magnificent bonus. And it is worth whatever effort it will take to make sure that the frequency protocols will be available to the next generation of physicians and therapists.

There is a whole generation of children now who have been treated with FSM. Mike Ander's cherubic six-year-old son walked up to me at the St. Mary's Hospital post-seminar staff dinner looking solemn and very grown-up in his white shirt, blue vest, and clip-on tie, and said he wanted to thank me for developing FSM because it had helped him so much. Meeting solemn with solemn, I asked him which protocols he liked the best.

After a moment's serious consideration he said, "There are so many that help, but I think my favorites have to be the concussion protocol and emotional relax and balance. If I'm nervous about a test, we run emotional relax and balance on the way to school, and it really helps. And if I have had a hard day at school, we run the concussion protocol at night before bedtime, and it really helps me go to sleep."

I had to swallow hard and thanked him for telling me. This boy just started college this year.

There are kids whose soccer teams use the same injury recovery protocols used in six NFL training rooms. There are children being treated at Cleveland Clinic pediatric hospital whose lives will always be better because their therapists have a new tool. There is the girl with Crohn's disease who recovered by using FSM and the girl who used FSM to help make her braces

not hurt. Both of these girls have gone on to medical school by now, and they will take FSM with them into practice, and their tools and expectations will be different.

I know from personal experience that tomorrow is not guaranteed. I had weeks of plans when I failed the stress test and needed the stent, and I had other plans again three years later when I needed the bypass surgery. During the heart surgery I died for a while, and when I came back, nothing was the same. The place of oneness that opened up during Harry's meditation is the same place I went to during the surgery. Whether this place or that life-after-life state is real or not isn't relevant.

What is relevant and real and will never fade is the vivid peaceful joyous awareness and permanent certainty. There is no separation between you and the energy that is your essence. That essence fuels the stars and lights your life from within. Our essence is energy and resonance.

The resonance effect is not just about frequencies that can change tissue and change your life. It is about the resonance that guides you to your heart's desire and your deepest yearning.

Listen.

Appendix: Alphabetical Attitude Exercises

The following list of words is generally considered to have associations that are positive. Positive words are thought to modify certain areas of brain function that are helpful.

Read from this list of words for ten minutes either silently or out loud twice daily for twenty-eight days. You might find it convenient to read just before bedtime. You can remove from the list any word that is not positive for you personally for any reason. You can read it more often or for more minutes if you want, but not less. You can read it any time of the day you want. If you find yourself thinking of some of the words in between the times when you read the list, you can recite as many as you can to yourself for as long as you want. You can stop this extra recitation any time you want. You do not have to know what the words mean, but you can look them up if you want. You do not have to recite or recall the words out loud. The order is not important. You will not be asked to repeat, recite, or recall any of the words, ever. There is no wrong way to do this. You might want to recall the list any time during the day that negative thoughts or experiences intrude. You may find you have a favorite word or words. You can add to the list. If you want, you can continue reading the list or any part of it after the twenty-eight days have passed.

A
alive
aligned
alert
assisted
angelic
amused
agreeable
amazing
agreed

B
buoyant
blessed
bright

brilliant
bubbly
bliss

C
cherish
cherished
clarity
cheery
colorful
calm
clever
charming
contented

D
delightful
delicious
dreamy
delighted

E
enjoyable
ecstatic
elegant
exciting
enchanting

F
fine
frisky
frolic
freedom
flexible
fair
fondly
friendly

friends
full
fidelity
fancy
fun

G
gratitude
grateful
good
glad
gladly
glorious
gorgeous
grand
great
gleeful
grace
gracious
graceful
gleaming

H
hope
hopeful
holiday
happy
hilarious
hospitality

I
incandescent
iridescent
infinite

J
joy

joyful
jolly
jovial

K
kissable
knightly
kite

L
laugh
lustrous
lifted up
light
lyrical
limitless
lucky
luscious
lovely

M
magical
melodious
mellow
magnificent

N
nice
nifty
notable

O
opportune
optimistic
opulent
open

P

positive
plenty
plentiful
perky
pleased
pleasing
pastoral
pleasant

Q
quiet
quick
quartz

R
radiant
rollicking
restful
rhapsody
rich

S
sweet
super
superb
saintly
supportive
supported

T
tasty
treat
titillating
thrilling
thoughtful
triumphant

U

unlimited
unrestricted
up
uplifted

V
validated
victorious
virtuous
vivacious
vivid

W
winning
winsome

X
xylophone

Y
yummy
yes

Z
zounds
zing
zoom

Notes

1. Resurrecting Resonance

1. Eric R. Kandel, James H. Schwartz, and Thomas M. Jessell, *Principles of Neural Science* (New York: Elsevier, 1981), 963–64.

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2. Miracles and Mistakes

1. Ngok Cheng, Harry Van Hoof, Emmanuel Bockx, Michel J. Hoogmartens, Joseph C. Mulier, Frans J. De Dijcker, Willy M. Sansen, and William De Loecker, "The Effects of Electric Currents on ATP Generation, Protein Synthesis, and Membrane Transport in Rat Skin," *Clinical Orthopedics and Related Research* 171 (November–December 1982), 264–72.

2. Robert O. Becker and Gary Selden, *The Body Electric: Electromagnetism and the Foundation of Life* (New York: Morrow, 1985).

3. 40 Hertz: The Frequency That Changed Everything

1. Becker and Selden, *Body Electric.*

2. Kandel et al., *Principles of Neural Science.*

3. Candace B. Pert, *Molecules of Emotion: Why You Feel the Way You Feel* (New York: Scribner, 1997).

4. That's Impossible

1. www.youtube.com/watch?v=hdIGVjrZ6aQ .

2. Cheng et al., "Effects of Electric Currents"; J. C. Seegers, C. A. Engelbrecht, and D. H. van Papendorp, "Activation of Signal-Transduction Mechanisms May Underlie the Therapeutic Effects of an Applied Electric Field," *Medical Hypotheses* 57:2 (2001), 224–30; J. C. Seegers, M. L. Lottering, A. M. Joubert, F. Joubert, A. Koorts, C. A. Engelbrecht, and D. H. van Papendorp, "A Pulsed DC Electric Field Affects P2-Purinergic Receptor Functions by Altering the ATP Levels in In Vitro and In Vivo Systems," *Medical Hypotheses* 58:2 (2002), 171–76.

3. Carolyn McMakin, "Non-Pharmacologic Treatment of Shingles," *Practical Pain Management,* 10:4 (2010), 24–29.

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6. If You Listen Very Carefully

1. Robert M. Sapolsky, *Why Zebras Don't Get Ulcers: An Updated Guide to Stress, Stress-Related Diseases, and Coping* (New York: W. H. Freeman, 1998).

7. How Do You Do That?

1. James L. Oschman, *Energy Medicine: The Scientific Basis* (New York: Churchill Livingstone, 2000).

2. Becker and Selden, *Body Electric.*

3. Albert Szent-Györgyi, "Towards a New Biochemistry?" *Science* 93:2426 (June 27, 1941), 609–11.

4. Gerald H. Pollack, *Cells, Gels, and the Engines of Life: A New, Unifying Approach to Cell Function* (Seattle: Ebner & Sons, 2001).

5. Irena Cosic, "Macromolecular Bioactivity: Is It Resonant Interaction between Macromolecules?—Theory and Applications," *IEEE Transactions on Biomedical Engineering* 41:12 (December 1994), 1101–14, doi: 10.1109/10.335859.

6. Masuro Emoto, *Messages from Water: The First Pictures of Frozen Water Crystals* (Plano, TX: Hado, 1999).

7. Microcurrent stimulation in the treatment of dry and wet macular degeneration, Laurie Chaikin, Kellen Kashiwa, Michael Bennet, George Papastergiou, Walter Gregory, Clinical Ophthalmology 2015: 9 2345–2353

8. More than Frequencies

1. Pert, *Molecules of Emotion.*

2. Bruce H. Lipton, *The Biology of Belief: Unleashing the Power of Consciousness, Matter and Miracles* (Santa Rosa, CA: Mountain of Love/Elite Books, 2005).

3. These words are in quotation marks because we don't know what is actually going on in the brain. It should really say, "The physical response acts as if the cerebellum is increasing its signals to the muscles." But that takes too long to read, and it breaks up the flow of the story.

9. Using the Resonance Effect

1. Cheng et al., "Effects of Electric Currents"; Seegers et al., "Activation of Signal-Transduction Mechanisms"; Seegers et al., "Pulsed DC Electric Field."

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About the Author

Photo by David Eakes, Puget Sound Video

CAROLYN McMAKIN graduated from chiropractic college in 1994, developed frequency specific microcurrent (FSM) in 1996, and began teaching it in 1997. In addition to maintaining a part-time clinical practice, she teaches seminars on the use of FSM in the United States, Australia, Europe, and the Middle East. She has authored eight clinical research papers, lectured at the National Institutes of Health and at medical conferences in the United States, England, Ireland, and Australia on the subjects of fibromyalgia and myofascial pain syndrome, fibromyalgia associated with spine trauma, and on the differential diagnosis and treatment of pain and sports injuries. Her textbook, Frequency Specific Microcurrent in Pain Management, was published by Elsevier in 2010. For additional information and case reports visit www.theresonanceeffect.com